TANKI FLIP / HENRIQUEZ: *An Early Urumaco Site In Aruba*

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TANKI FLIP / HENRIQUEZ:

AN EARLY URUMACO SITE IN ARUBA

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I could never have completed this thesis without the help of numerous people to whom I am deeply indebted. During my study I realized that someday I would have to do an extensive investigation to graduate. Giving the fact that I was an Aruban student and I was going to return to Aruba after my study, I logically wanted to do this investigation about some archaeological matter concerning my own native island, Aruba. As the years past by, I began to form an idea of the possibilities I had for a subject of a master thesis, which ultimately resulted in this investigation. A lot of persons helped and guided me, and I would like to acknowledge all those important people who meant a great support for me during my whole study that formed me into an archaeologist.

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1 INTRODUCTION

1.1 BACKGROUND OF MY CHOICE

The Indians of Aruba who lived at Tanki Flip during the Ceramic Period, and the pottery they produced, play the central role in this thesis. I had a lot of ideas about the possible themes for an archaeological investigation about the interesting prehistoric Indian past of Aruba. I was always more attracted to the Ceramic Period than to the Preceramic Period, so I wanted to choose an aspect of this period for my master thesis. After extensive research I concluded that one of the most important investigations that needed to be done, was a deep investigation about the pottery of this period.

Different authors have investigated the pottery, but most of them gave simple descriptions and interpreted them as belonging to the Dabajuroid culture, without placing it in the local chronology or within the Dabajuroid culture. Thanks to the important new insights obtained by the research of J.R. Oliver about the ceramics of this culture, we can get more information than before.

During one of my annual visits to Aruba in 1994, I decided to investigate the pottery of the Tanki Flip/Henriquez site, excavated by Boerstra in the seventies. Besides some pictures taken for small publications, and the few pottery exemplars in the exposition in the Archaeological Museum Aruba, this material had not been investigated yet. It was the best documented site (excavated by Boerstra) compared to the other excavated and partially investigated sites.

The Archaeological Museum Aruba is stored with a lot of excavated material, because there is a limited space for exposition. Since 1990 they're planning to move to another, bigger, historical building which just has been bought, but still has to be restored. Presently the building in which the Archaeological Museum Aruba is accommodated since its foundation in 1981, is being restored.

A lot of the stored material has not been thoroughly investigated yet, reason why I wanted to choose the material for my investigation out of this bulk of archaeological artefacts.

The idea of the investigation of the Tanki Flip pottery came in agreement with Dr. C.L. Hofman, Drs. E.H.J. Boerstra, Evelino Fingal and Arminda Ruiz. The Archaeological Museum Aruba then extended all the necessary help to collect this material and to sent it to Holland for my investigation.

1.2 RESEARCH AIMS

After I did deep research about the archaeological investigations and archaeological material, especially about the ceramics, I formulated my aims for this thesis as follows:

1. First of all, I wanted to give a description of the Tanki Flip pottery, what has never been done before;
2. Secondly, I wanted to date the site and place it in the local chronology, thus within the Dabajuroid culture;
3. The third main aim was to get to know as much as possible about the technological aspects of the Tanki Flip pottery, within the time frame I had.

For the first aim I used the pottery classification method developed by C.L. Hofman (Hofman, 1993) for the pottery assemblages on Saba.
For the second aim I used the chronological charts developed by Cruxent and Rouse (1958-1961 and 1963) and the newly developed chronological chart for the Dabajuroid culture by J.R. Oliver (1989).
I also used some valuable information of the Dabajuroid pottery investigated by Sterks in 1982, when Dabajuroid investigations were scanty, and the classification of the Aruban pottery (Ceramic period) was at a beginning stage.
For the last aim, I relied upon already investigated Dabajuroid pottery of Aruba and other investigated Dabajuroid pottery in the region, combined with the results I got about the shaping-, finishing- and firing techniques.

After my study I would certainly return to Aruba to exercise my archaeological knowledge being the first Aruban archaeologist, reason why I investigated all archaeological aspects of the Aruban Indian heritage, which I want to treat to some extend in this thesis. I also constantly beared in mind the cultural continuity of the Indians who lived on Aruba, and all these factors resulted in the way this thesis was ultimately approached.
To get a good picture of the Aruban Indians, some aspects are very important and I'll treat each of them, being the natural-, prehistoric-, historic- and linguistic backgrounds (chapters 2, 3, 4, 5 and 6).
In Chapters 7, 8 and 9 the processing of the pottery and the morphological, stylistic and technological attributes of the Tanki Flip pottery will be treated, while in chapter 10 the Tanki Flip pottery will be dated and consequently placed in the local chronology, thus within the Macro-Dabajuroid Tradition.

2 THE SETTING

2.1 GEOGRAPHY

Aruba is situated in the Caribbean, between 12º 25’ and 12º 38’ N. Lat., and between 69º 52’ and 70º 03’ W. Long., at approximately 30 km north of Venezuela[1] and 78 km north-west of Curaçao (*fig. 1*). It is the westernmost of the three Dutch islands in front of the Venezuelan coast belonging to the Southern Caribbean Region, which is defined as the east-west linear spread of small islands and atolls along the Aruba-to-Margarita island chain, roughly parallel to the Venezuelan coast (Haviser, 1987:11) (*fig. 2*).

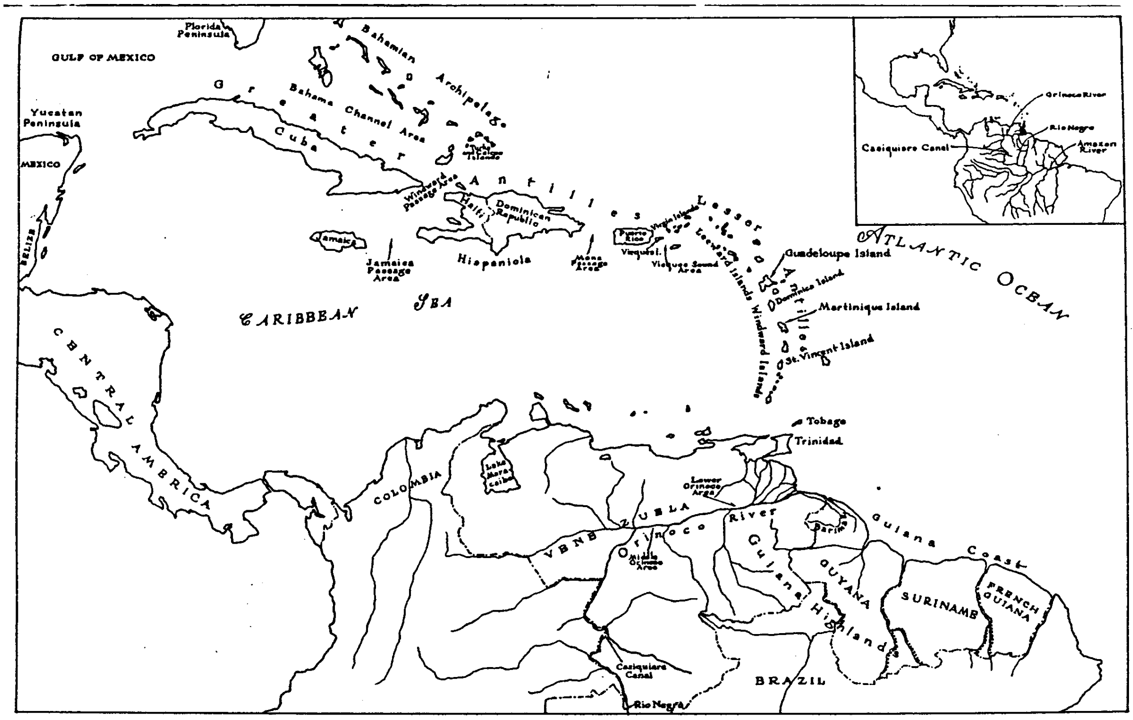


Figure 1. Map of the Caribbean (after Rouse, 1986:107).

From Curaçao to Blanquilla, the island chain is separated from the Venezuelan mainland by the Bonaire Trench with a depth of over 1000 meters. In contrast, Aruba (and Margarita) is not separated from the continental shelf as a true oceanic island[2], which is also characterized by the fact that the terrestrial fauna

[1] Aruba lies 27 km in a direct line from Cape Román; the Peninsula of Paraguaná can be seen with clear weather.

[2] The sea separating Aruba from the mainland does not exceed 200 m depth, is excellent for canoe navigation and is furthermore well known for its good fishing grounds (Van Heekeren, 1960:103).

has the presence of Burrowing Owls *Speotyto* (*Athene*) *cunicularia* and rattlesnakes *Crotalus durissus*, which otherwise are not found in the South Caribbean insular faunas (Voous, 1983:14).

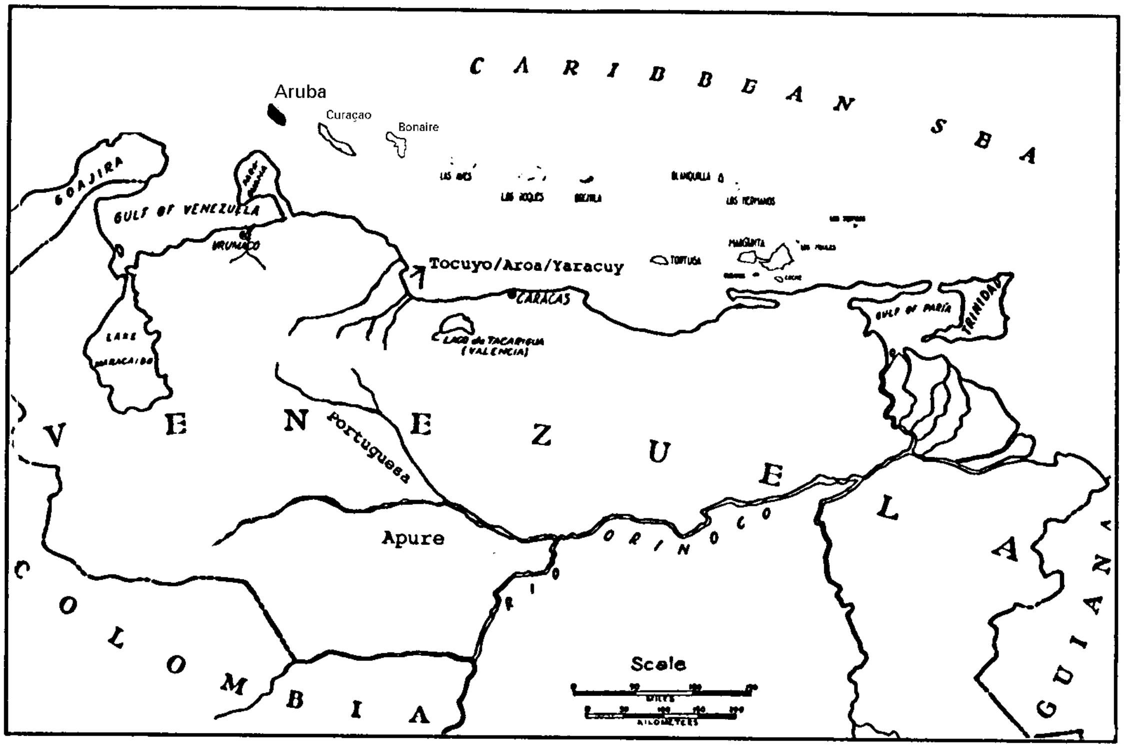


Figure 2. Map of the Southern Caribbean Region (modified after Haviser, 1991:7).

The surface area of Aruba is 190 km². The greatest length is 31 km, from Cudarebe to Punta Basora, and the greatest width is 8 km, approximately halfway of the island (De Palm, 1985:42) (*fig. 3*). Aruba is an autonomous part of the kingdom of the Netherlands, and formed together with Curaçao, Bonaire, Saba, St. Eustatius and St. Martin the Netherlands Antilles (1954-1986), until in 1986 it got its *Status Aparte.* The capital of Aruba is Oranjestad, and presently there are 85.000 people (27.000 immigrants) of 29 different nationalities living on the island (Amigoe di Aruba, 1997:3), a number which has been growing rapidly during the last 6 to 7 years, because of the important growing touristic (tourism) sector of the economy. The Lago Oil Refinery was from 1924 to 1984 the most important source of income on the island.

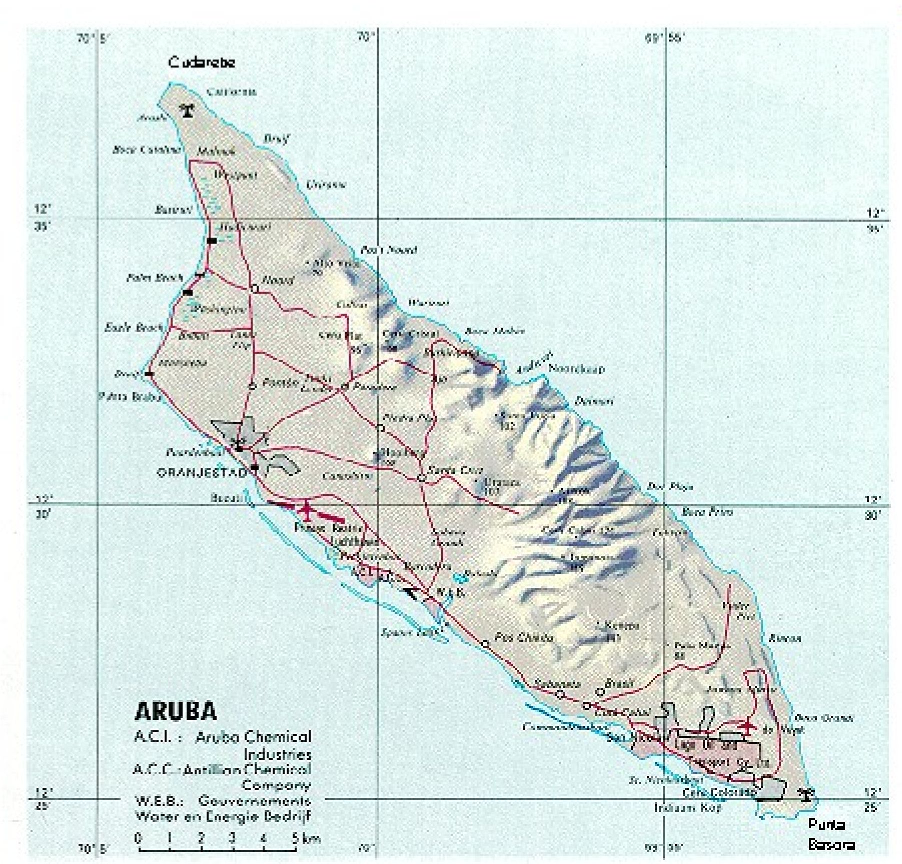


Figure 3. Topographic Map of Aruba (after De Palm, 1985:43).

2.2 GEOLOGY

Aruba was formed 90-95 million years ago as the result of an underwater volcanic eruption, which was followed by more vulcanic activity. This submarine volcanism occured during the early Crertaceous-Coniacian phase (Haviser, 1987: 13). Because of tectonic movements this volcano was later pushed up, and it came above sealevel, where it remained since then (Versteeg & Ruiz, 1991:4).

Aruba is characterized by a complex geological landscape, and unlike Curaçao and Bonaire, it's an outcropping of the continental shelf of South America (Heidecker & Siegel, 1969:1). It consists of a nucleus of old igneous and sedimentary rocks of the Cretaceous age folded and injected by diorite magma during the Tertiary age, which were later covered by younger sediments (Tertiary limestone and extensive deposits of Pleistocene limestone). In comparison with Curaçao and Bonaire, the old part has been subject to much more tectonic forces[3] (De Palm, 1985:42). Aruba also has a barrier reef, which lies abaout 400 yards (ca. 366 m) off the shore, extending discontinuously along the southwestern coast between Punta Basora and

[3] For example there were three successive periods of uplift, resulting in three levels of sea cut caves along the north coast (Heidecker & Siegel, 1969:1).

Oranjestad, and is composed of coral and capped by a beach ridge of coral fragments (Heidecker & Siegel, 1969:2).

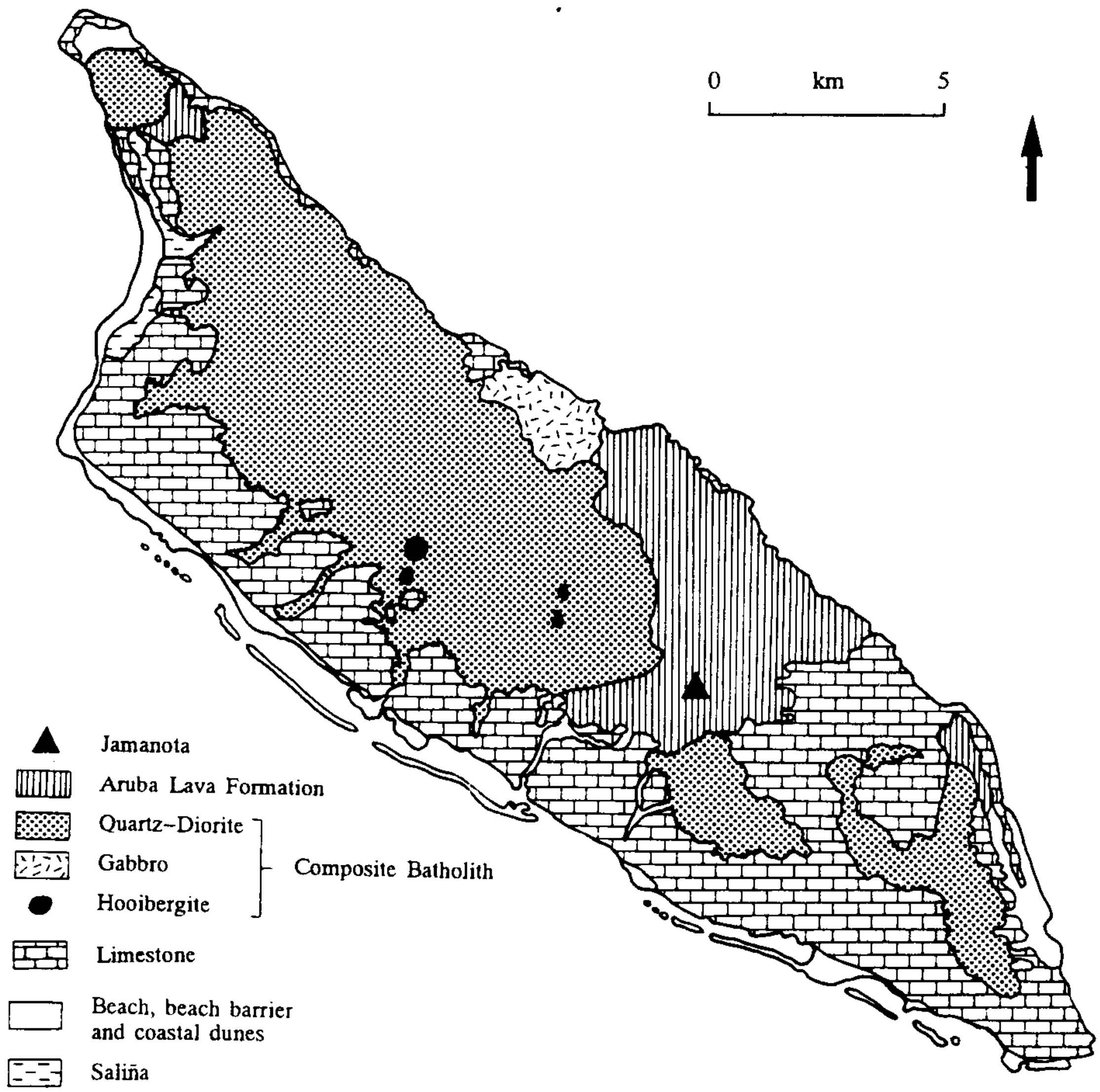


Figure 4. Geological Map of Aruba (modified after Westerman, 1932 in Versteeg & Ruiz, 1995:35).

Aruba can be divided into three main landscapes, firstly a hilly one which is mainly situated in the central part of the island, this area has the highest hills, among them the Jamanota (189 m), Arikok (188 m) and Sero Cabai (169 m). The drainage pattern of this area runs mainly east-west, and is fault controlled (Versteeg *et al., in prep*., 1997). Secondly a slightly indulating landscape is located to the northwest and southwest of this central hilly part. Huge exfoliated boulders of quartzdiorite dominate this outcrop area, while this part of the landscape is relatively flat with gentle hills.

These two landscapes are surrounded by the third landscape, a flat terrace-like formation which forms the coastline. A characteristic terrace form of this limestone landscape can be found in the south and southeast area. The westcoast sandy beaches occur in combination with this lower terrace (Versteeg & Ruiz, 1995: 35*)*.

The volcanic part of Aruba is called the Aruba Lava Formation[4] and is formed by lavas and tuffs intruded by dikes. In the central part of the island, with some outcrops on the northeastern coast, along faults the rock has been metamorphosed into amphibolites. These have been intruded by a plutonic rock of a more silica-rich composition, the tonalite (quartzdiorite), and they show a very characteristic weathering pattern resulting in huge exfoliated boulders. The older formations were later covered by reefal limestones, especially along the southwest coast. On the west coast of the island sandy beaches are found, whereas the east coast is characterized by limestone cliffs, small bays, and exposures of the older Cretaceous formations (Versteeg *et al., in prep*, 1997) (*fig*. *4*).

2.3 HYDROLOGY

There exists a complete *rooi*[5]-system on the island (*fig*. 5). Roois are gullies supplied by the heavy showers, but are dry for most of the year. Together with the *tankis*[6] they form the surface hydrology of Aruba. The geological underlying formations determine the shape and orientation of these gullies, of which no one is located in the limestone areas, because in this sub-soil the water quickly disappears. Most of the roois west of the water divide are situated in the flat tonalite landscape where the majority of the tankis are built, because of the impermeability of the soil. The construction of these tankis have disrupted the natural surface hydrology, while the tankis have caused some roois to remain totally dry (even during the rainy season) by cutting off their water supply, because they catch the water from these gullies.

In prehistoric times the roois had water flowing during the rainy season, and because of the presence of a richer soil and vegetation, the water was prevented from flowing to sea (Versteeg *et al., in prep*., 1997). According to Haviser (1987:39) and Versteeg and Ruiz (1991:25) the roois functioned as natural communication routes between the villages and other sections of the island. They furthermore provided loose, coarse, soil accumulations which are very potential growing plots for the cultivation of maize and manioc (Haviser, 1987:39-40).

[4] The rocks of the Aruba Lava Formation were extensively used by the prehistoric inhabitants (Versteeg & Ruiz, 1995).
[5] From the Spanish word *arroyo.* These roois are typical for the islands of Aruba, Bonaire and Curaçao.
[6] Rain water reservoirs; artificially deepened ponds of which the water is brakish, but drinkable.

Figure 5. Map with the Rooi System of Aruba (after Versteeg & Ruiz, 1995:47).

2.4 CLIMATE AND VEGETATION

Aruba is situated in the tropical region, and has an average temperature of 27.8º C. The temperature ranges from 35.8º C maximum to 17º C minimum. It has the driest climate of the three Dutch Leeward islands, with an average rainfall of 437 mm a year. It has 52 rainy days, November and December being the wettest months (heavy showers over short periods of time, causing severe erosion), and March and April being the driest months. The coolest months are January and February, while the hottest months are August, September and October. These characteristics qualify Aruba as a semi-dessert island (tropical steppe climate), very similar to the adjacent regions of Guajira, Northwestern Venezuela and the rest of the

northern Venezuelan coastal islands, which is a dry region with an average rainfall less than 680 mm a year (Haviser, 1987:13).

During more than 90% of the time there is a north-east trade wind blowing over Aruba, with an average velocity ranging from 13 to over 20 knots (an average of 8 miles per second).

Basically Aruba has a xerophytic vegetation, which means a vegetation with thorny scrubs, low trees, low grasses and cactus plants. The mangroves, which occur at some places along the sea coast and the bays, are also important to mention, as they represented an important food source (shellfish, birds, crabs and other aquatic fauna) for the prehistoric inhabitants (Haviser, 1987:37-38).

For the Aruba to Margarita island group, there are 28 species or sub-species of mammals identified by Wagenaar Hummelinck (1940:118). On Aruba the iguana and turtle are the largest reptiles, and no large mammals occur (Versteeg & Ruiz, 1995:54).

Deforastation during the historic period and recent times, combined with severe erosion, has changed the Aruban landscape considerably (Terpstra, 1948; Versteeg & Ruiz, 1991, 1995).

2.5 EARLIER RESEARCH

2.5.1 1880-1923

In 1880 a Dutch Roman Catholic priest named Van Koolwijk was transferred to Aruba from Curaçao[7], and he lived on the island until 1886. He wasn't a trained archaeologist, but he was an enthusiastic field-worker and a keen observer. He limited his investigations to the collection of surface findings and small investigations, which were concentrated on the Santa Cruz site, but he also obtained archaeological artefacts from Fontein, Savaneta, Tanki Flip and Arikok. He furthermore documented the last remains of the living Indian culture and language on the island (Versteeg & Ruiz, 1995). In 1899 Jennings and Hoskins came to Aruba in relation with the establishment of the Aruba Gold Concessions (Aruba Gold Mining Company) and placed the first pier of the harbour of Paardenbaai. During their activities at a place which was then called Forti Abau, different urns were found, but unfortunately most of this material has been lost (Hartog, 1953).

All the artefacts found by Van Koolwijk, were sent to the Rijksmuseum van Oudheden at Leiden, Holland, where they were presented in the years 1883-85-86 and 1887. In 1903 they were past on to the Rijksmuseum voor Ethnographie[8], which is also situated in Leiden, and there they remain until today (Van Heekeren, 1963). The Van Koolwijk collection was studied and published by Leemans in 1904, by ten Kate between 1914-1917, and by De Josseling de Jong in 1918 and 1920. In 1904 the human skeleton remains of Aruba (4 skulls) and Curaçao, collected by Van Koolwijk, were described by Koeze. In 1922 a Danish-

[7] On Curaçao he did archaeological investigations at the Knip, Santa Barbara and St. Jan sites.

Dutch archaeological expedition was made to the Antilles, and Aruba was also visited (De Josseling de Jong, 1923a). In 1923 de Josseling de Jong excavated at the Santa Cruz site, but never published the results of his excavations. These were investigated and partly published by Du Ry and Van Heekeren in 1960.

2.5.2 1923-1960

After De Josseling de Jong left the island of Aruba, years past by before some serious archaeological work was done again. In this period there were some accidental finds, like the Indian skeleton found at Malmok in 1942 when a bulldozer was collecting sand. In 1942 Stearns paid a short visit to Aruba, and wrote a paper about Aruba's archaeology (1947/48). In 1949 Ringma, an amateur-archaeologist, excavated five human burials at Canashitu, which were sent to Holland where Tacoma and Wagenaar Hummelinck studied his notes and the physical anthropological aspects of these skeletons (Tacoma, 1959). Some of this bone material was dated in 1990 (Versteeg *et al*., 1990). He also described rock paintings, which were studied by Wagenaar Hummelinck (1953, 1957).

In 1951 an almost complete urn burial was found during road construction at Savaneta, containing parts of deer antlers and a milling stone (Beurs- en Nieuwsberichten, 1951). In 1951 and 1958 Feriz visited the island and described various rockpaintings at Papillon and Canashitu, and also discovered a griddle at Hadi-Koenari. In 1953, while a sand pit was dug at Ceru Noka/Santa Cruz, two burial urns were discovered containg human bones, together with a large fragment of a griddle (Feriz, 1959). In 1953 also a seven day excavation was carried out by Cruxent at Santa Cruz (Aruba Esso News, 1953). In 1956 another burial urn was unearthed at Savaneta by van Gaalen (Beurs, 1-6-1956). Worth mentioning is that in the fifties Hartog wrote different articles in local newspapers about accidental archaeological findings on the island, and speculated a lot about the people who left this material behind.

2.5.3 1960-1970

From 1960 on, professional archaeologists came to Aruba carried out scientific research which they reported. In 1960 Du Ry and Van Heekeren published an important study about Preceramic and Ceramic material which was found in several sites. In 1963 Van Heekeren published another study about this Preceramic and Ceramic material. In 1964 and 1968 Glazema, who was the director of the State Service for Archaeology, did archaeological research at some sites, among them at Fontein and Malmok, and published two short articles (1964, 1968). He advised to found an archaeological institute in the Netherlands Antilles, to which Aruba belonged in those days, and his advise resulted in the foundation of the Institute of Archaeology and Anthropology of the Netherlands Antilles (AAINA) in 1967.

In 1966 Diemont excavated two skeletons at Malmok on the request of Engels, because the latter was interested in the stature of the Indians due to the tales of the Indian "Giants" of Aruba and Curaçao by

[8] In 1935 the name was changed to Rijksmuseum voor Volkenkunde.

sixteenth century visitors (Engels, 1970). Two of these skulls belonging to the excavated skeletons still are in the Curaçao Museum. In that same year a teacher from Seroe Colorado Highschool named Lester, together with some of his students, did some amateuristic digging at Tanki Flip (Aruba Esso News, 1966). Furthermore father Nooyen described in a newspaper that he had witnessed an excavation conducted by American students of the University of New York at Seroe Canashitu, where they had discovered a cave full of human bones (R. Nooyen, 1979; La Union, 31-1-1979:4). In 1968 a few complete skeletons and a number of skulls were excavated at Malmok by someone with the initials W.V. (Versteeg *et al*., 1990:7).
In 1969 Rouse and Cruxent wrote an article about the current state of archaeological issues. In that same year, Heidecker and Siegel of the New York City University, together with the Aruba Research Centre, excavated some test pits at Tanki Flip, of which they only published two small reports. It's also worth mentioning the many articles and books father Nooyen wrote in the sixties and seventies on the different aspects of the Aruban Indians, mainly of the Historical Indian Period.

2.5.4 1970-1996

In 1970 Dahn wrote a short report about the ecological and archaeological presentation of the Canashitu site. In that year, the Foundation for Cultural Cooperation (STICUSA, Amsterdam) sent the archaeologist Boerstra to the Netherlands Antilles, where he decided to concentrate his work on Aruba for the same reasons Van Koolwijk did; because it's the richest island in archaeological findings of the (three) Dutch Leeward islands. He did archaeological excavations at Santa Cruz, Malmok, Savaneta, Tanki Flip and Canashitu (1974, 1976, 1977, 1982, 1983). Finally Aruba got its own archaeological museum in 1981 (Archaeological Museum Aruba), where a small part of the big quantity of excavated material could be exposed to the public. In 1982 Sterks wrote his master thesis about the Dabajuroid pottery of Aruba, Curaçao and Bonaire, using the ceramics of his self denominated "Van Heekeren collection". The pottery of Aruba he analized were from the Santa Cruz and Savaneta sites[9]. In 1985 a summary of the archaeology of Aruba until 1984 was published by Ayubi, Boerstra and Versteeg. In 1984 Boerstra stopped working as an archaeologist for the AAINA.
In 1988 Kersten excavated some skeletal material at Tanki Flip, where he also did some surface findings, just like at Santa Cruz, which findings were never published. In that same year Versteeg became the Advisor of the Archaeological Museum Aruba, and since then he has been excavating at different sites, like Malmok (1990), Santa Cruz (1991, 1992) and Tanki Flip (1994). Not all of his results of these excavations are published yet. These excavations were done together with other professionals, like

Tacoma, Bartone and Rostaine, and for the first time real archaeological students participated in the excavations. He also did an extensive survey with Ruiz in 1991 (Versteeg & Ruiz, 1995), and made an

[9] Only some complete vessels of Tank Flip were used for his investigation.

inventory of all known and unknown archaeological sites up till then. In 1996 together with Van Leeuwen he did a research of the rock paintings, with the aim of dating these paintings (Van Leeuwen & Versteeg *in prep.*). In that year, while working on the construction of a house in Savaneta, two urns were found with no human remains (Amigoe di Aruba, 1996).

2.5.5 Rock Paintings

On Aruba there is another important pre-Columbian heritage, namely the rock paintings. Reverend Bosch was the first to have reported them in the literature before any archaeological findings (Bosch, 1836: 219-220). They were mentioned by Teenstra (1837), by Van Koolwijk (1882, 1885)[10], by Martin (1885, 1888), by Pinart (1890), by Mallery (1893), by Eeuwens (1907, 1911), by Ten Kate (1916), by Amelunxen (1929), by Wollebaek (1934), by Realino (1938), by Rings (1943), by Westerman (1947) and by Hartog (1951, 1953). Van Koolwijk, Pinart and Martin documented and studied these rock paintings. Wagenaar Humelinck published most of the known rock paintings in 1953, 1957, 1961, and 1972. The sites with these paintings were revisited by Dubelaar in 1987, what resulted in Wagenaar Humelincks publication in 1991. The rock paintings are presently being investigated by Van Leeuwen and Versteeg as mentioned before.

2.5.6 Treasure Hunters

During the years different people have been collecting archaeological artefacts as a hobby or simply because they found the material interesting. M. Odor has a private museum with archaeological material from unknown sites up till 1990. J. Dania fortunately contributed to the Archaeological Museum Aruba with his finds and information, as are different other persons who borrow part of their private collection to the museum for exposition. Others have written notes on their findings or collections, like Bongers (1963), Tjon Sie Fat (1961) and Odor (1990). Paskel-Wernet (1992) wrote a book of her youth experiences on the island, including her activities collecting archaeological artefacts.

Some people still conduct their own private excavations, without the knowledge of the Archaeological Museum Aruba and the Aruban Government; like Van Heekeren already noticed in 1960, the archaeological sites are still at the mercy of clandestine excavators and treasure hunters (1960:117) or ‘pot-hunters’ as Boerstra called them (Boerstra, 1974:13).

Aruba has a ‘monument ordinance’, which prohibits non-qualified or non-authorized persons to take artefacts of cultural-historical value from archaeological sites, a law stemming from the fifties which needs to be adjusted. When this is done, Aruba can ratify the two international treaties ‘UNESCO Convention on the Means of Prohibiting the illicit Import, Export and Transfer of Ownership of Cultural Property’, and the ‘UNIDROIT Convention for the Protection of Cultural Properties’, adapted in 1995.

2.6 THE TANKI FLIP SITE

The Tanki Flip site is situated at the western side of Aruba at a distance of approximately 2.5 km from the south-west coast (*fig. 6*). The terrain is flat with a well developed soil suitable for raindependant agriculture under special conditions. This kind of soil is recorded as 'soil type II', and totals about 2000 ha. of Aruba, which is ca. 11% of the islands surface (*fig. 7*).

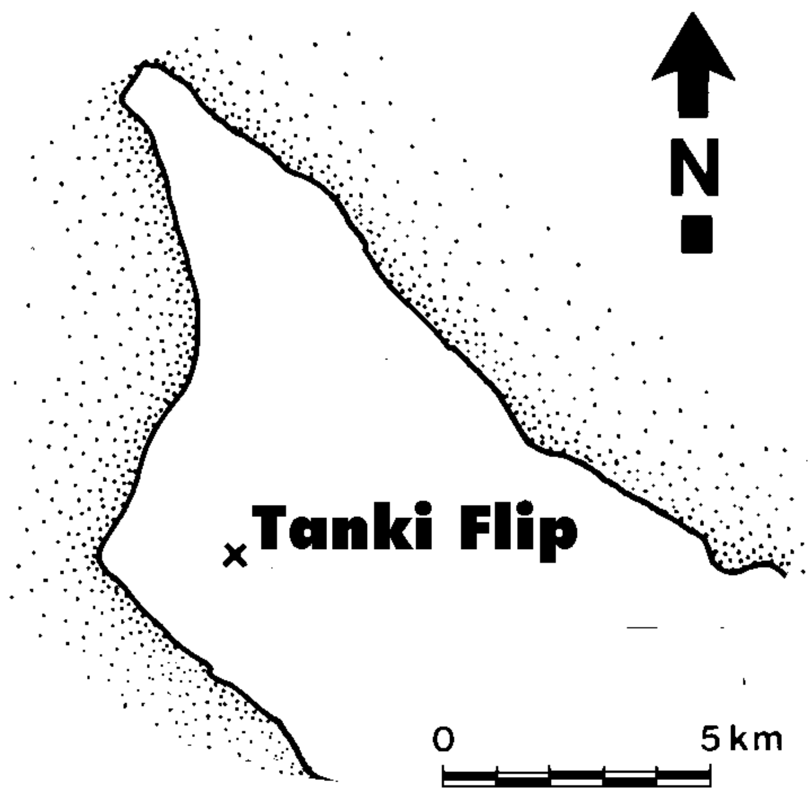


Figure 6. Map of Nothern Aruba showing Tanki Flip (modified after Versteeg *et al.,* 1990:3).

[10] His notes of 1881 were reprinted by Coomans (1987).

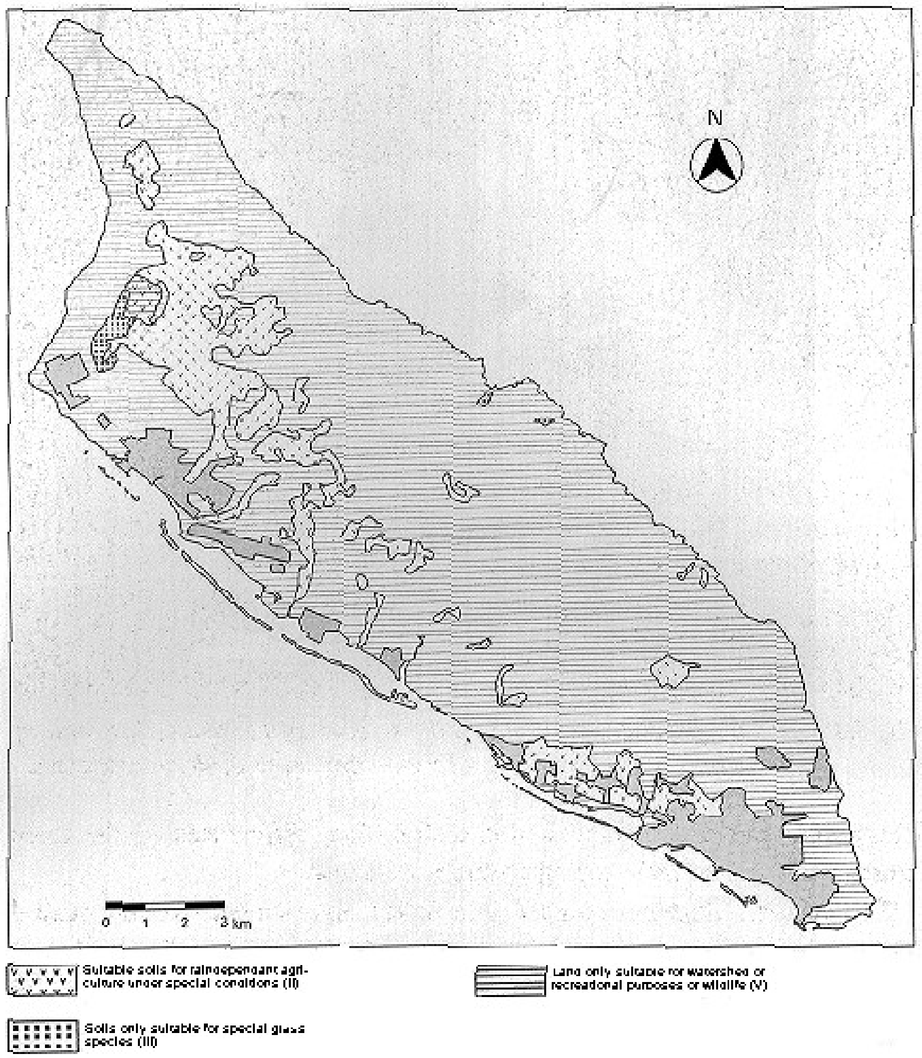


Figure 7. Soil Potentiality Map of Aruba (after GRONTMIJ/SOGREAH's 1968 soil potentiality map in Versteeg & Ruiz, 1995:48).

According to Haviser this type of soil is appropriate for the cultivation of maize, manioc and agave[11] (Haviser, 1987, 1991). The Tanki Flip site has been used for agricultural purposes during the Colonial Period[12]. The site is essentially situated between two east-west running roois, which are at a distance of some 200 meters from each other, and is surrouded by cactus fences, which also mark the parcelling (*figs. 8*, *9*). The north-south rooi is so straight, that it must have been dug by the prehistoric inhabitants. It connects the other two roois and is exactly located at the western border of the site (Versteeg, 1994a:5). The site number is 101, and the coordinates are 5.650-5.875 and 18.300-18.550.

[11] Also known as maguey or cocuy (*Agave cocui*).
[12] Due to ploughing the artefacts of the top-soil are disturbed.

The total site area measures 200 m by 150 m (30.000 m²). A big part of this terrain is affected by house construction, by the already mentioned incidental agricultural activities, and by the excavated areas which I will recount here.

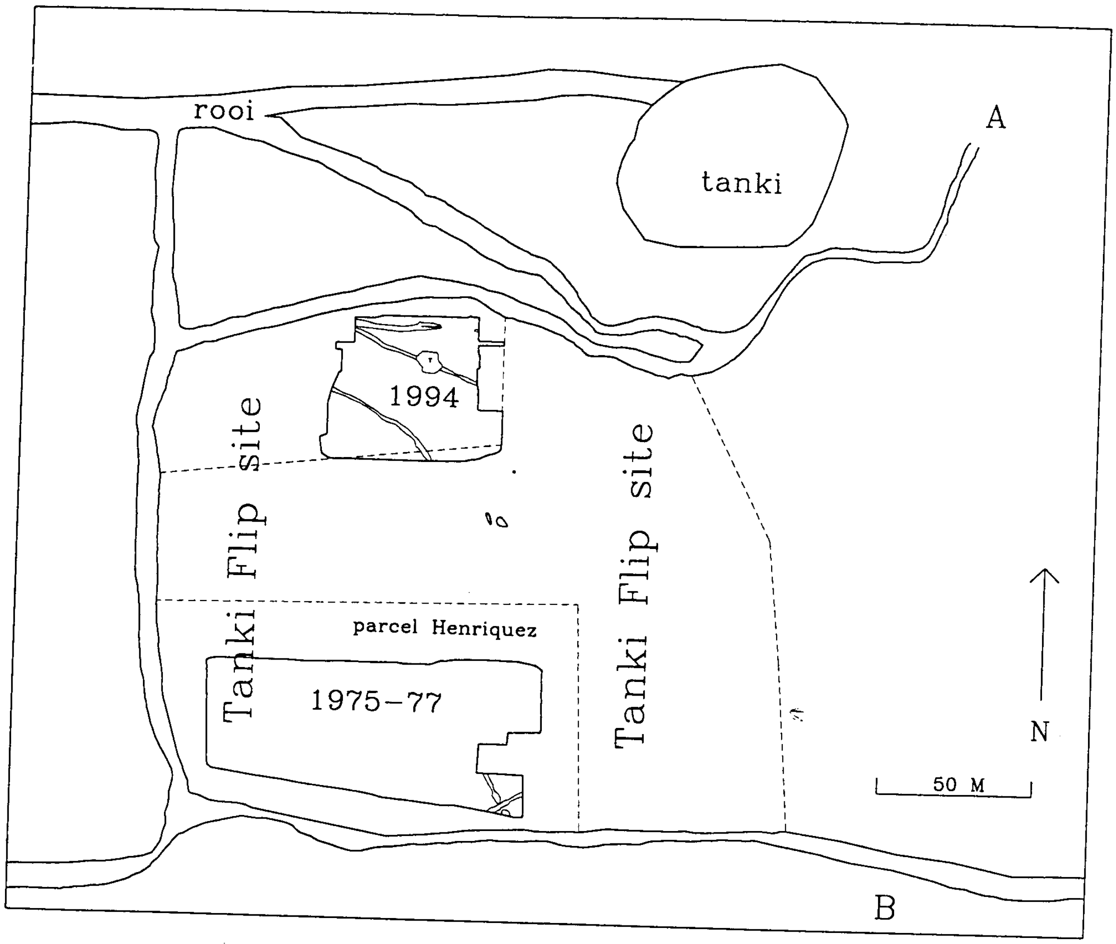


Figure 8. The Tanki Flip Site (after Versteeg et al., in prep., 1997).

Figure 9. The 1975-1977 Excavation at Tanki Flip (after De Palm, 1985:31).

Father Van Koolwijk was the first to recognize the Tanki Flip area as an archaeological site, and mentioned it in a letter in 1883 to Leemans, who was the Director of the National Museum of Antiquities in Leiden. Based on this letter, Versteeg suggests that the supposed modern tanki must have been built before 1883, because the

Aruban toponyms with Tanki are only called so if such a big water reservoir is present (Versteeg *et al., in prep*, 1997). This large tanki, approximately 100 meters to the northwest of the small colonial tanki, probably gave Tanki Flip its name around 1830 (*ibid*.).

Investigators never did research at Tanki Flip, until in 1966 a local newspaper mentioned some of the artefacts that were found by a teacher, mr. Lester, who was doing some excavations with his students at the site (Aruba Esso News, 1966: 4-6). Two years later, in 1968, Heidecker and Siegel excavated some testpits in the southern part of the site (Heidecker and Siegel, 1969:8), but unfortunately the exact location is not known.

Between 1975 and 1977 Boerstra excavated approximately some 4.400 m², 40 m in a south-north direction, and 110 m in an east-west direction of the Henriquez parcel. He found human burials, including urn burials, ashpits and firepits[13] next to the usual bulk of material, being stone objects, animal bones, shell and pottery. Some of these findings were discribed in his publications of 1976, 1977, and 1982. He was unable to recognize structures in the considerable amount of features, and Schinkels and Versteeg also tried to identify structures in 1991, but neither did they succeed. In 1983 Boerstra published his findings about the ditches, which Versteeg also found in the 1994 excavation calling them *paleo-rooien* (Versteeg *et al., in prep*,1997) (*fig*. *8*).

In 1988 Kersten collected some surface findings and excavated a few testpits (small-scale excavation) where he also found some human skeletal remains[14]. In March 1994, Ciro Abbad discovered a human skull, which was excavated a week later by the Archaeological Museum Aruba. Other disturbed skelleton remains were found, and the skull is presently being investigated by Tacoma.

From the fifth of September till the twentyfifth of November 1994[15], Versteeg, Rostaine and Bartone, together with some archaeological students, carried out an excavation, because of the planning of modern house and road constructions in this Tanki Flip area. They excavated in the northern part of the site, and concentrated mainly on the Dabajuroid house shapes and settlement lay-out, where they recognized 15 structures, of which 5 are interpreted as *malocas* (Versteeg *et al., in prep*., 1997). Petitjean Roget and Oliver don't agree with the term 'maloca' for a multi-family house in the Dabajuroid/Caquetío culture, as it can only be applied to the Tukanoan groups of the Vaupes River area, because it has other symbolic, cosmological and social complications which cannot be carried on to other cultures (Oliver, 1995:20).

[13] The firepits are called 'hearths' by Versteeg (Versteeg *et al., in prep.*, 1997).

[14] His findings were never published, while the material was somewhere stored at the Leiden University for 6 years, before being rediscovered by Steffen Baetsen. He is presently studying this skeletal material (Baetsen, *in prep.*).

[15] Some additional work was done in 1995.

Lab. No	F. no	BP	Sigma	Cal 1 s.	Cal 2 s.	Function	Association
GrN-16915	TFH-197	825	30	1216-1268	1174-1277	Burial	S part site
Unknown	F. I	740	105	1202-1390	1040-1410	?	S part site
Unknown	F. II	765	105	1170-1390	1040-1400	?	S part site
GrA-2788	222	1080	50	892-1016	828-1036	Ash-hearth	Str-3
GrN-21665	1762	1030	40	978-1030	894-1158	Stone-hearth	Str-10
GrN-21666	1874	1030	30	994-1024	968-1150	Stone-hearth	Str-10 (-9?)
GrA-2789	484	990	50	1004-1158	970-1172	Stone-hearth	Str-6
GrN-21656	9	910	30	1042-1172	1038-1210	Pottery kiln	Outside settlement
GrA-2785	608	860	50	160-1254	1040-1278	Posthole	Str-11
GrN-21664	17202A	860	40	1066-1250	1044-1275	Burial Child	Overlap F. 1762
GrA-2778	1265	830	50	1174-1272	1050-1287	Stone-hearth	Str-5
GrA-2784	426	750	50	1242-1294	1210-1388	Posthole	Str-4
GrA-2790	408	340	50	1490-1636	1455-1652	Posthole/Pit	Str-4
GrN	49I	23470	750	Not calib.		Pit/Posthole	

Table 1. Tanki Flip Datings and Calibration of the Results to one (68.3%) and two Sigma (95.4%) Confidence Level (after Versteeg *et al., in prep.,*1997).

The natural environment of Tanki Flip, the Tanki Flip shell (Reinink, Dacal & Serrand), the stone and coral artefacts (Rostain), the faunal remains (Grouard), the shell-stone-coral-bone function (Rostain & Dacal), the pottery (Versteeg), the hearths (Versteeg), the death culture (Versteeg, Tacoma & Rostain), the Tanki Flip symbolism (Rostain & Versteeg), the wood exploitation at Tanki Flip (Newsom) and the colonial artefacts (Bulgrin, Bartone & Rostain) are being studied and will soon be published (Versteeg *et al., in prep*, 1997).

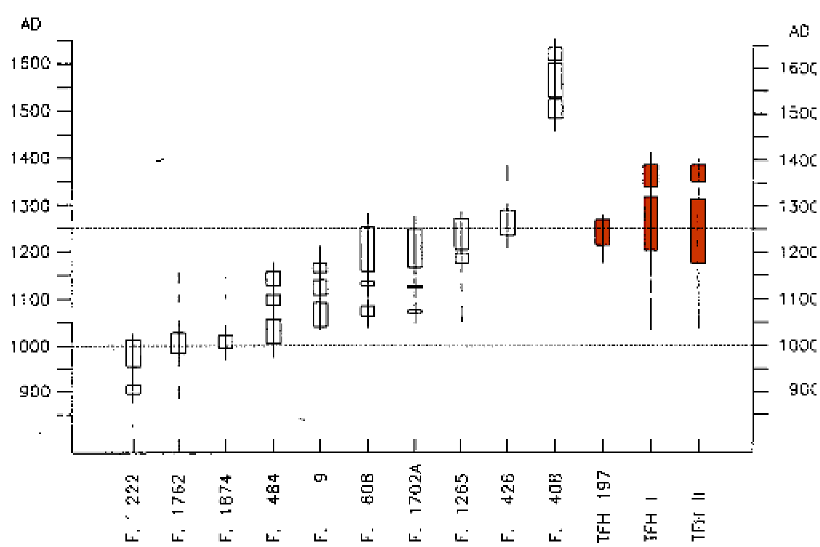


Figure 10. Diagram showing Calibrated Datings of Tanki Flip (after Versteeg *et al., in prep.,*1997).

Of the Tanki Flip site there are fourteen radiocarbon datings known. Of the southern part (Tanki Flip/Henriquez) one sample was obtained by Boerstra (TF/H 197), and two by Heidecker and Siegel (F. I and F. II), while of the northern part eleven samples were obtained by Versteeg *et al.* (*table 1*and *fig. 10*).

3. PREHISTORIC BACKGROUND

3.1 INTRODUCTION

The peopling of America began some 20.000 years ago or possibly as early as 40.000 B.C., although this is a major subject of discussion, by people living in bands (hunters/gatherers). They came from Asia, and crossed the Bering Strait (Berengia), which became trespassible a few times during the latest glaciation (Wisconsin) between 80.000 and 7.000 years ago. They followed the big animals (mega fauna) like the mammoth, the giant leopard, the mastodon, the megatherium, the horse and the camel. The kill-butchering sites, and their Folsom and Clovis Stone Age cultures are known, and it is of no importance to treat their culture here, except to mention that the immigrants firstly arrived in Alaska, then proceeded eastward into Canada, then possibly turned down into the great plains of central North America, passing through a gap in the ice sheets which covered Canada, then spread throughout the United States into Mexico and Central America and finally arrived in South-America and the Caribbean area (Rouse & Cruxent, 1963a:1; Ayubi *et al*., 1985:393; Coe *et al*., 1988:28-30). The earliest human inhabitants of northern South America are found in Northwestern Venezuela having a distinctive ancestral population from the Taima Taima/El Jobo area, dating back to about 16.000 years B.P. (Cruxent, 1968:13-14; 1970 in Haviser, 1991:37; 1971:34-35). The latter area is of great importance for this study, because Aruba belongs to this region.

3.2 INTERMEDIATE AREA

Culturally Aruba belongs to the Intermediate Area, which area is comprised of southern Central America, Colombia, coastal Ecuador and Western Venezuela (*fig. 11*). The inhabitants of the Intermediate Area failed to achieve civilization, despite the geographical proximity and accessibility to influences from Meso-America and the Central Andes, which are the other great areas of cultural development in Nuclear America. Furthermore Eastern Latin America is divided into the Caribbean Area and Amazonia (Rouse and Cruxent, 1963:5; Meggers, 1979:100).

Within the Intermediate Area, Western Venezuela is of my concern, and especially Northwestern Venezuela, which is the area lying west of Lake Valencia, the off-shore islands including Aruba , the area north of the Llanos and the high Andes (*fig. 12*).

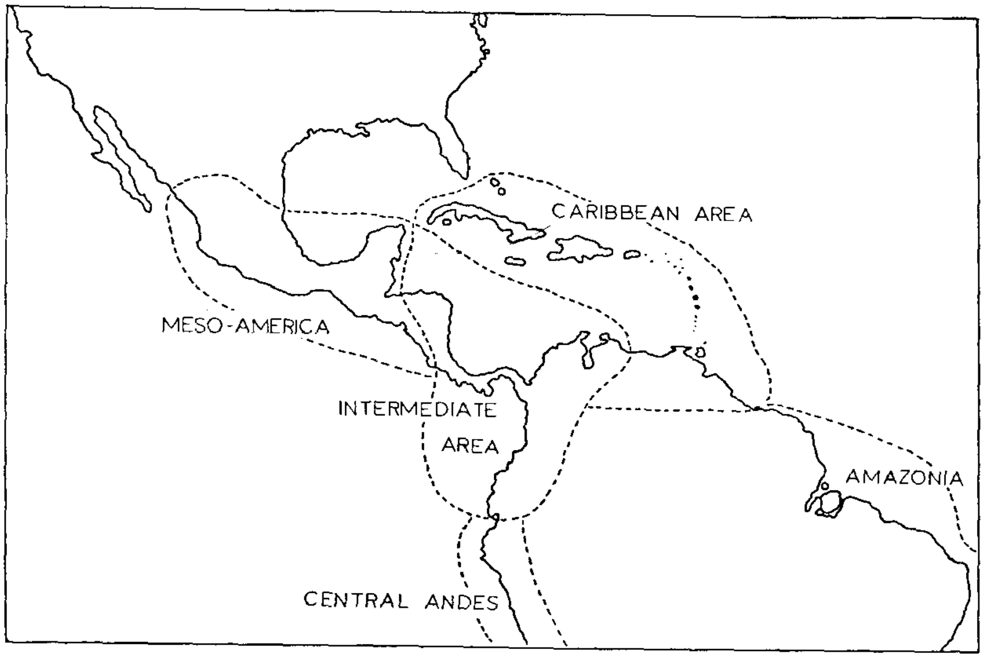


Figure 11. Areas of Cultural Development in Tropical America (after Rouse & Cruxent, 1963a:4).

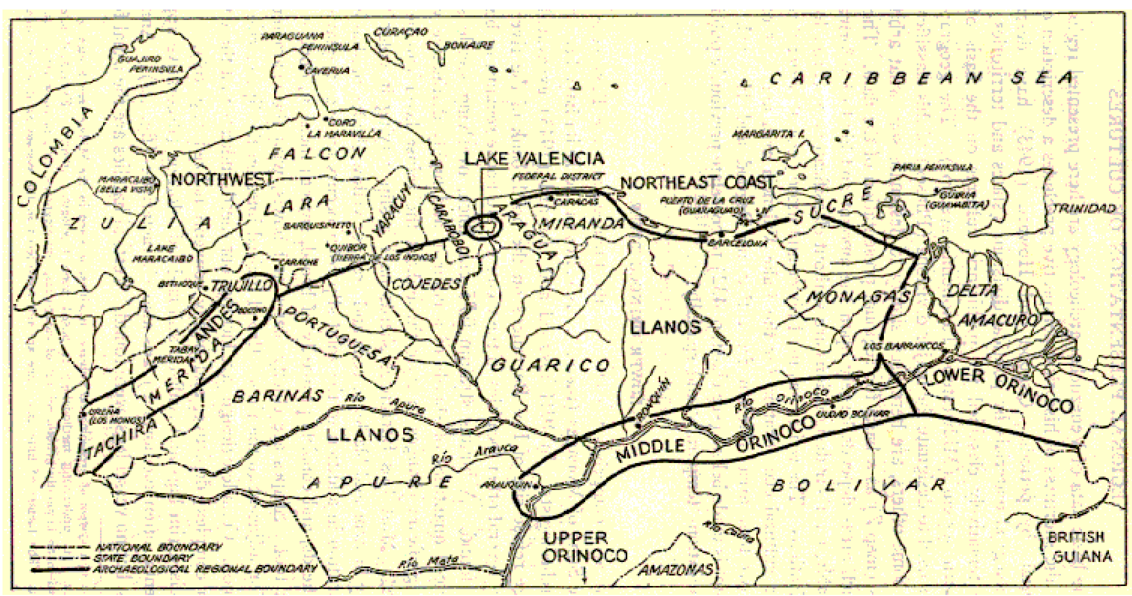


Figure 12. The Archaeology of Venezuela (after Kidder II, 1948:416).

3.3 CHRONOLOGY

3.3.1 Venezuela

Kidder II (1944) was the first to try to make a chronology of Venezuela, while Cruxent and Rouse (Cruxent & Rouse, 1958-59, (1):8-9, 1961, (1):10; Rouse & Cruxent 1963a:30) were the first who made an absolute chronology for Venezuela, basing their findings on: 1) Glottochronology; 2) Radiocarbon dating; 3) Geological correlations; 4) Historical correlations; 5) Rate of refuse accumulation, resulting in a table with absolute dates and epochs divided into five periods for Venezuela (*table 2*). They distinguished five regions (Venezuelan islands, coast, mountains, Llanos, and the Orinoco), and drew a chart for each region, divided horizontally into local areas and vertically into the Periods I-V.

EPOCH	PERIOD	ABSOLUTE DATE
Paleo-Indian	-	15.000-5000 B.C. (?)
Meso-Indian	I	5.000-1000 B.C.
Neo-Indian	II	1.000 B.C.-300 A.D.
,, ,,	III	300-1.000 A.D.
,, ,,	IV	1.000-1.500 A.D.
Indo-Hispanic	V	1.500 A.D. to present

Table 2. Absolute Dates of Epochs of Venezuela (after Rouse & Cruxent, 1963a:30).

Oliver (1989) rearranged Cruxent and Rouse's chronological chart for Western Venezuela, and on his chart two Aruban sites of the Ceramic period appear, namely Savaneta and Santa Cruz (*fig. 13*).

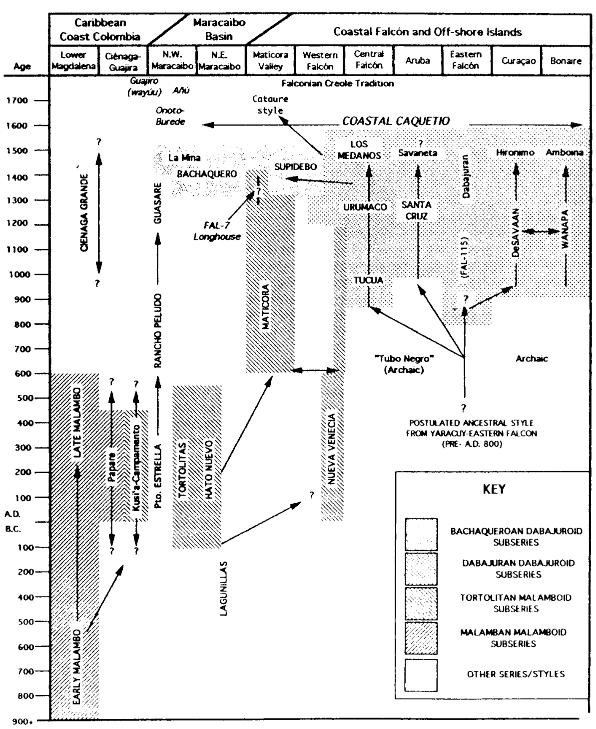


Figure 13. Chronology of Eastern Colombia and Western Venezuela: Malamboid and Dabajuroid Series (after Oliver, 1995:7).

3.3.2 Aruba

On Aruba a total of 109 archaeological sites have been found and documented. These sites are classified into Preceramic, Preceramic/Ceramic, Ceramic, Ceramic/Colonial, Colonial and Pictograph/Petroglyph (Rock painting) sites (*fig. 14*).

The Preceramic sites belong to the Meso-Indian I period, and the Neo-Indian II and III periods. The Ceramic sites belong to the

Neo-Indian IV period, while the Colonial sites belong to the Indo-Hispanic period. The rock paintings have not been ascribed to any culture, nor been dated, so we don't know to which period they belong. A more detailed description of the sites will follow in the next paragraphs.

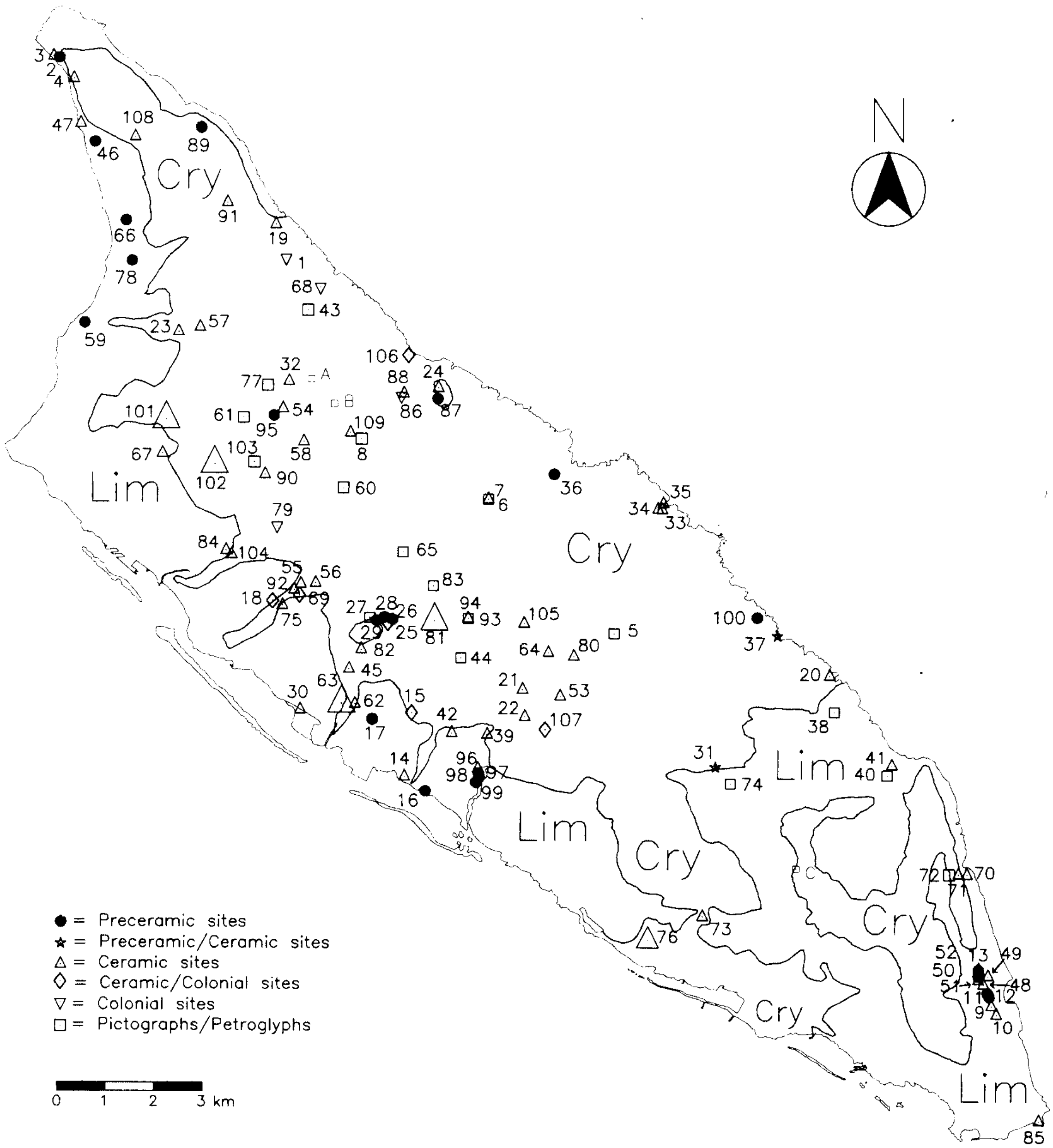


Figure 14. The Archaeological Sites of Aruba (after Versteeg & Ruiz, 1995:117).

1	Alto Vista	38	Fontein	75	Sabana Blanco
2	Arashi-1	39	Franse Pas	76	Sabaneta
3	Arashi-2	40	Guadirikiri-1	77	Saliña
4	Arashi-3	41	Guadirikiri-2	78	Saliña Cerca
5	Arikok	42	Kibaima	79	San Barbola
6	Ayo	43	Labega	80	San Fuego
7	Ayo-2	44	Macuarima	81	Santa Cruz
8	Babijn	45	Mahuma	82	Santa Martha
9	Banki Jerome-1	46	Malmok	83	Seri Noka
10	Banki Jerome-2	47	Malmok-2	84	Sero Blanco
11	Banki Jerome-3	48	Manzania-1	85	Sero Colorado
12	Banki Jerome-4	49	Manzania-2	86	Sero Cristal
13	Banki Jerome-5	50	Manzania-3	87	Sero Geel
14	Barcadera-1	51	Manzania-4	88	Sero Muerte
15	Barcadera-2	52	Manzania-5	89	Sero Muskita
16	Barcadera-3	53	Maria Mai	90	Sero Patrishi
17	Barcadera-4	54	Moco	91	Sero Pela
18	Barcelona	55	Morgenster-1	92	Simonslust
19	Boca Cura	56	Morgenster-2	93	Siribana-1
20	Boca Prins	57	Noord	94	Siribana-2
21	Boton	58	Nune	95	Soledad
22	Bringamosa	59	Palm Beach	96	Spaans Lagoen-1
23	Bucurui	60	Paradera	97	Spaans Lagoen-2
24	Budui	61	Paraguana	98	Spaans Lagoen-3
25	Canashito-1	62	Parkietenbos-E	99	Spaans Lagoen-4
26	Canashito-2	63	Parkietenbos-W	100	Suplado
27	Canashito-3	64	Picaron	101	Tanki Flip
28	Canashito-4	65	Piedra Plat	102	Tanki Lender-1
29	Canashito-5	66	Plantage Tromp	103	Tanki Lender-2
30	Cas di Paloma	67	Ponton	104	Tarabana
31	Coashiati	68	Pos di Noord	105	Urataca
32	Cudawecha	69	Primavera	106	Wariruri
33	Daimari-1	70	Rincon-1	107	Wela
34	Daimari-2	71	Rincon-2	108	Westpunt
35	Daimari-3	72	Rincon-3	109	Yanana
36	Daimari-4	73	Rooi Thomas		
37	Dos Playa	74	Rooi Cochi		

3.4 PRECERAMIC PERIOD OF ARUBA

3.4.1 Lithic Age

The Lithic Age began in Northwestern Venezuela some 16.000 years B.P., with the peopling in the Taima-Taima/El Jobo area; these groups were Late Pleistocene hunters (Cruxent, 1968:13-14; 1970 in Haviser,1987:44, 1991:37; 1971:34-35). This age roughly corresponds with the Paleo-Indian Epoch, and was the time between the beginning of the chipped stonework and the appearance of ground stone and/or shell artefacts (Rouse & Allaire, 1978:437). The technological level of this Paleo-Indian stage were cultures with fluted-type spear points and cultures with Lerma or El Jobo type leaf-shaped spear points (Rouse, 1964:396-397; Cruxent, 1971:52; Kozlowski, 1974:24 in Haviser, 1987:44, 1991:37). No evidence of this age has been found on Aruba, nor on the islands of Bonaire and Curaçao (Haviser, 1991:38-39). Van Heekeren found artefacts at the Rooi Rincon site on Curaçao which presumably show similarities in type, character and technique, but not necessarily in age with material from El Jobo (Van Heekeren, 1963:5).

3.4.2 *Archaic Age*

3.4.2.1 Venezuela

The Archaic Age roughly corresponds with the Meso-Indian Epoch, and is defined by the first appearance of ground artefacts to the first manufacture of ceramics (Rouse & Allaire, 1978:437). In Venezuela there are two important cultures distinctive of this technological stage, namely the Manicuare and El Heneal cultures (Rouse & Cruxent, 1963a:44-47; Rouse, 1964:397; Cruxent, 1971:39).

The Manicuare culture is situated in the area of the eastern coast of Venezuela, at the Peninsula of Araya and the adjacent islands of Cubagua and Margarita. It is dated at ca. 4.500 to 3.000 B.P. and has three phases, namely the Cubagua phase (without shell gouges), the Manicuare phase (with shell gouges), and the Punta Gorda phase (with shell celts) (Cruxent & Rouse, 1961, (1):51-63).

The El Heneal culture covers the central and western Venezuelan area, and is dated at ca. 6.000 to 3.000 B.P., with Cero Iguanas as the oldest site. This culture is characterized by bone artefacts and stone tools of the pecking technique like hammers, edge-grinders, massive axes, milling and anvil stones (Kozlowski, 1974:19 in Haviser, 1991:40).

The Meso-Indians who settled in the Southern Caribbean chain must have come from the Venezuelan mainland (Cruxent & Rouse, 1970:45). On Bonaire the sites of this Age are little similar to El Heneal, but have strong influences of the Manicuare culture (Haviser, 1991:40), while on Curaçao there are strong influences of the El Heneal culture with also some Manicuare influences (Haviser, 1987:48). The artefact assemblages of these sites are chipped stone tools, shell/stone tools, hammers and anvil stones.

One of the most diagnostic ground shell tool in Archaic Age sites of Curacao is the *Strombus columella* shell gouge with a unique 'nipple-tip'-end usewear (Haviser, 1987:46), which unique shell gouge has also been found at the Lagun site of Bonaire. This is important, as we know that Curaçaoan Archaic Age sites have been radiocarbon dated at about 4500-3500 years B.P. (Rooi Rincon: 4490 ± 60 years B.P.; 3990 ± 50 B.P.). These sites were totally abandoned sometime around 3.000 B.P., and between 3000 to about 1500 B.P. there was probably no habitation on Curaçao (Haviser, 1987:48), while on Bonaire the first people arrived at about 3.300 B.P. Haviser suggests that the Archaic Age people of Curacao moved to Bonaire and possibly also to Aruba (Haviser, 1991:40). More data concerning this theory of the first peopling of Aruba will be given later.

3.4.2.2 Preceramic Sites of Aruba

A total of 22 sites are classified as Preceramic sites, and all have shells and no pottery. Most of them are shell-middens, while two primarily functioned as cemeteries (Canashitu and Malmok). Two sites (Coashiati and Dos Playa), which were used for stone extraction and stone working activities and may have been Preceramic activity sites, were classified as Preceramic and/or Ceramic, as the recovered stone artefacts and stone working have been found in both Preceramic and Ceramic sites (Versteeg, 1988d:4; Versteeg & Ruiz, 1995:14). In these two sites thousands of roughly flaked dark-coloured diabase stones were found on the surface (Versteeg, 1991c:9). The Preceramic/Ceramic sites, which are possibly 'contaminated' sites[16], were listed as Ceramic sites (Versteeg & Ruiz, 1995:18).

Most of the Preceramic sites are situated within one kilometer from the sea (mostly southwest leeside coast, and some at the windward side) or water resources, except the Soledad site (*fig. 14)*. The location and findings (shell and seaturtle carapaces) suggest a marine, coastal orientation, except for the Coashiati and Canashitu sites (Versteeg & Ruiz, 1991:23; 1995:14, 63).

The Preceramic sites of importance are situated on a limestone surface (20 out of 22), and according to Versteeg and Ruiz (1995:16) important cultural activities are limestone-associated. Most of the Preceramic sites have striking numbers of bivalves and oysters (*Chama, Arca and Anadara*), which is in sharp contrast with the Ceramic sites (Versteeg & Ruiz, 1991:18; 1995:19). On Bonaire and Curaçao the same has been noted by Haviser (1987, 1991). The Preceramic sites were inhabited by nomadic 'fisher-hunter-gatherers' (bands) consisting of 10-15 persons, who exploited the mangroves of the south coast, but also foraged on the large conch and whilk, and other species (Versteeg, 1991b:8; 1995:63).

A big problem is that no detailed (typological) studies have been done of the stone tools and the raw material of the Aruban sites, reason why questions like who (which culture) manufactured them and to which period they belong, remain unsolved.

The gouge, a shell tool which was made of the lip of the large conch (*Srombus gigas*), was an important tool mainly used for wood-working, like boats, houses, wooden tools etc. (Versteeg, 1991c:9).

The oldest site on the island is probably Sero Muskita, of which one stone tool was found, just like a similar tool that has been found at Arikok. Based on their finishing technique and shape, these artefacts suggest an age of 4000/4500 years B.P. (ca. 2500 B.C.; Meso-Indian Period I), and are probably the result of incidental visits from the mainland (Versteeg, 1991c:6, 9; Versteeg & Ruiz, 1991:17; 1995:16-17). This period is poorly understood, but some excavations and findings were very important, reason why I'll treat

[16] 1) They are one-component sites as the result of activities of the Ceramic Period people.
2) They are one-component sites as the result of activities of the Preceramic people, who had acquired some pottery utility ware from Ceramic groups.
3a) They are two-component sites as the result of activities of Preceramic and Ceramic people, only the later group caused the pottery admixture. 3b) They are one-component sites as the result of predominantly Preceramic people, and the presence of the low number of the pottery sherds is the result of insignificant activities of later groups (Versteeg & Ruiz, 1991:17; 1995:18).

these here below. Most of the information of the Preceramic people was obtained from the sites where they buried their dead: at Canashitu and Malmok (Versteeg, 1991c:9).

Canashitu

At Canashitu (Ceru Canashitu 70 m) in inland Aruba three sites are located, a cave cemetery and two other sites with a large shell content (*fig. 14,* sites no. 25-29). Furthermore, one of the Canashitu caves has pictographs (Wagenaar Hummelinck, 1953; Dahn, 1970; Versteeg & Ruiz, 1995). Unfortunately, a big part of the site is destroyed because of sand digging (Versteeg, 1988b:11-12).

The Canashitu burials are dated between 100 B.C. and 100 A.D., belonging to the Neo-Indian Period II (Versteeg, 1991c:11), while two shell-datings gave a date of 500 A.D. (Ayubi *et al*., 1985:394). Boerstra (1982) dated Canashitu between 500 B.C. and 500 A.D.

Numerous shellfishes, crabs, turtle shell, and some pottery (including griddles) of which very few were decorated, were found. The pottery sherds are interpreted as the result of later activities, probably of the Ceramic people of the nearby Santa Cruz site (Versteeg *et al*., 1990:35).

Shell gouges and shellspoons, polished axe-heads and flint hand-axes were also present, and according to Dahn the polished axe-heads made of greenish-gray volcanic tuff could be associated with the Meso-Indian industry of Venezuela and were probably brought to the island around 500 A.D. (Dahn, 1970:8). She thinks that one sherd of a pottery disc indicates trade ware, and probably came from Northeastern Venezuela (Dahn, 1970:9).

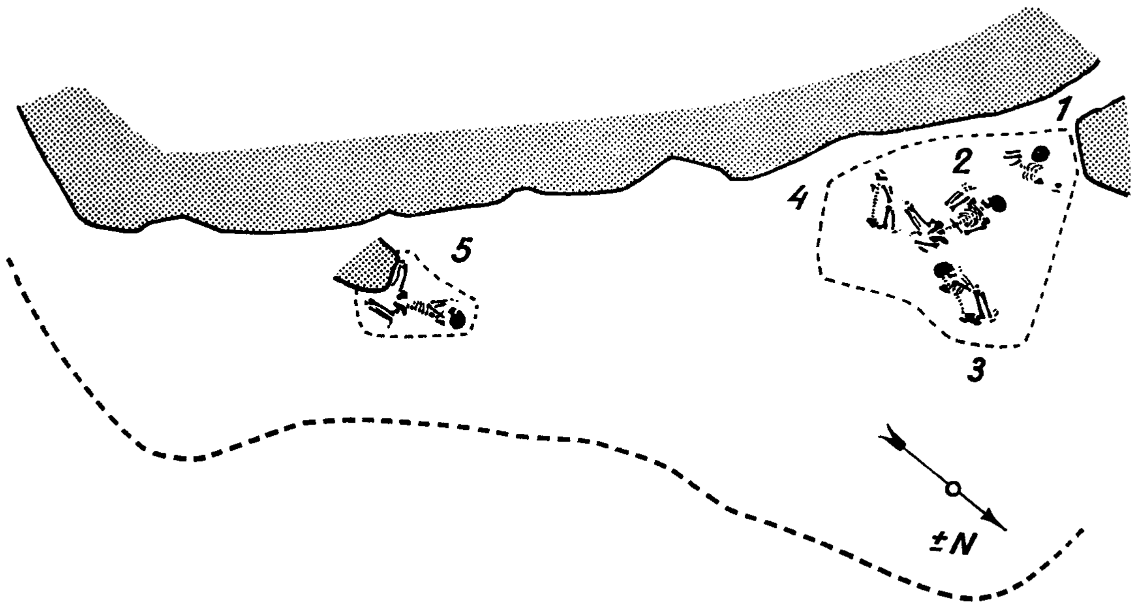
In the cave cemetery one family group (cluster) was distinguished, consisting of five adult individuals, with a male of advanced age in the center (Versteeg *et al*., 1990:2; Versteeg, 1991b:8) (*fig. 15*).

The Hato cave of Curaçao also has one family buried with a male in the center, and the burial pattern is the same as at Canashitu (Haviser, 1987:65-66; Versteeg *et al*., 1990:2, 36).

Two of three skulls from the Canashitu site excavated by Ringma in 1950, could possibly have been artificially deformed (*paralello-fronto-occipital*[17]), although this can not be said with all certainty (Tacoma, 1959:107-108; 1964:213).

Tacoma furthermore investigated five skulls excavated by Du Ry and Van Heekeren in 1960, of which the origin is not known. One of them was positively artificially deformed, and on the basis of some cranial characteristics, it can not be excluded that it belonged to the Canashitu (skull) group (Tacoma, 1964:222).

[17] The head was deformed in infancy by pressure exerted in opposite directions on the frontal and occipital parts of the skull by means of two parallel planes.



The Canashitu preceramic finds were compared with the Malmok cemetery, and striking similarities were found; the dead have a similar posture and skull shape typical to the Malmok Indians, as will be shown below (Versteeg *et al*., 1990:2, 35).

Malmok

This site is situated on a large sandy terrain (sub-soil) at a distance of 200 m (S) - 300 m (N) from the sea (*fig. 14,* site no. 46), parallel to a former *saliña*, a salt-lake (Versteeg *et al*., 1990:5). It is a cemetery where some 60-70 individuals were buried, in which fifteen family groups could be distinguished. The males older than 25 years had a central position in each group, while large, complicated stone arrangements on top of their bodies were found. The other buried individuals (women, children and low-status-males) had simpler stone lay-outs as a cover, and the stones were also smaller (Versteeg *et al.*, 1990:1, 10; Versteeg, 1991b:10; 1991c:10-11). The stones were markers which indicated the location of the grave, and the stone arrangements (five types) were related to the status of the individual (Versteeg *et al*., 1990:1; Versteeg, 1991c:11). Females, children and lower-status-males were buried in the territories of the high-status-males, and the territories probably represent household clusters, while within the territories graves were often found in pairs of opposite sex, suggesting marriages (Versteeg *et al*., 1990:1).

The planning of the cemetery points out that it was used over a longer period of time; the central males of three family groups form isosceles triangles in the south part of the cemetery, a lay-out which is recorded 6 times. Furthermore in the north part all central males were buried on a straight northwest-southeast line,

while each central high-status male had his own, circular territory[18] (Versteeg *et al*., 1990:21; Versteeg, 1991c:11; 1993:2) (*fig*. *16*).

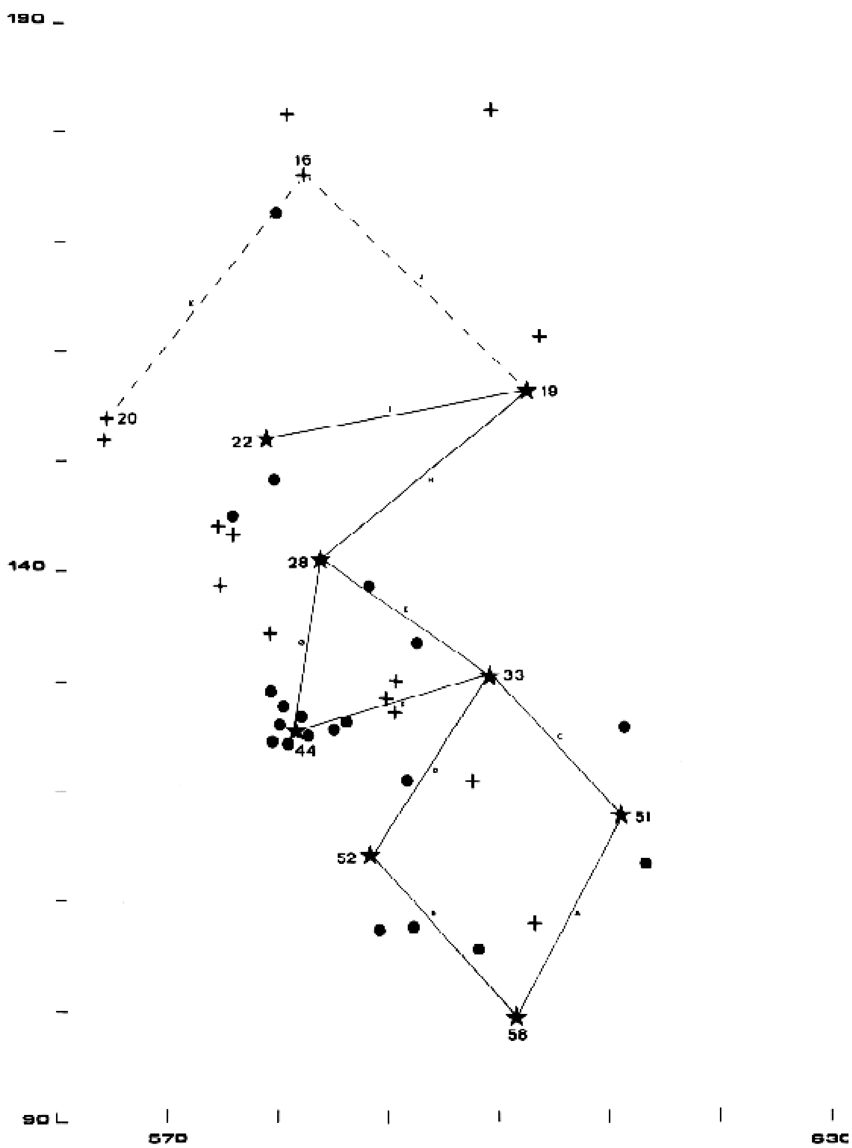


Figure 16. The Malmok Cemetery: Central Males forming Isosceles Triangles (after Versteeg *et al.,* 1990:29).

Three graves with males with stone circle (=*) form isosceles traingles.

[18] It is interesting to note that D.W. Eichholz began an investigation in 1994 to see if there is any association between the the Malmok cemetery layout and star constellations or celestial bodies (cosmological concepts), but unfortunately nothing has been heard from him again (Ruiz, *pers. comm*.).

The individuals had relatively long (*dolichocran*), high (*hypsicran*), and narrow skulls (*acrocran*), and the average adult died at an age of ca. 35 years. The typical skull shape of these Preceramic Indians is not he result of artificial deformation (Versteeg *et al*., 1990:12). The average stature of the men was 1.57 m (156.9 cm), and the women 1.49 m (148.7 cm). The men and women had very strong muscles and heavy bones, which would describe them as relatively small, strong people (*ibid*.; Versteeg, 1991c:11).
It is interesting to note that the teeth of these people were very worn out, which indicates that they did much more with their teeth than we do nowadays (Versteeg, 1991b:8). Caries, dwarfism, humpback and arthrosis has been identified on some of these preceramic individuals (Versteeg *et al*., 1990:12).
The skull of many of the individuals were coloured red (a manganese based red dye) before burial, while many had a hand grasping the head, and lay on their side. Many graves had shells (grave gifts) in certain arrangements, and about 10% of the individuals were buried on or below a large sea-turtle carapace. These features were distributed at random, reason why it's not understood why some dead have attributes in their graves, and others don't (Versteeg *et al*., 1990:1, 14-18; Versteeg, 1991c:11). Probably successive generations of one band buried their dead in this organized cemetery at Malmok (Versteeg *et al*., 1990:2).

The site has been dated between 500 and 800 A.D., and belong to the latest phase of the Preceramic period being the Neo-Indian Period III (Versteeg, 1991c:11). Dating results on collagen of dental elements are ca. 1400-1100 B.P. and yield the age of the burial activities, while shell datings resulted to be from an older group, ca. 2000-1600 B.P. This means that the shell-midden is at least 200 years older than the first burial activities (Versteeg *et al*., 1990:1-2, 32, 34; Versteeg, 1993:1, 4). These dating results are interpreted as 'territorially based descent groups' stressing the relationship with ancestors, as they took shells for grave gifts from this shell-midden which were used in the burial activities (Versteeg, 1990:31, 1993:1). The shells are interpreted as being selected by the Indians on purpose, as they knew or considered them as objects of their ancestors (Versteeg, 1993:1, 4).

Most of the Preceramic Period sites have the same shell species of the Malmok midden (Versteeg *et al*., 1990:tables 13A/B; Versteeg 1994b). The burial pattern of Malmok, the association with stones on the dead body, one hand resting against the head, the seaturtle remains, and the same skull shape, is shared by the St. Michielsberg site of Curaçao (Haviser, 1987:63-66; Versteeg, 1988b:18; Versteeg *et al.,* 1990:2, 36-37). Striking parallels for the Preceramic burial sites on Aruba and Curaçao are found in Cuba and Colombia; group burials, red ocher in graves in rock shelters, similar burial postures, comparable skullshapes are found in Preceramic burials of Colombia. Similar postures, red ocher on skeletons, hand-head relations, small-group-burials in caves, group burials in an midden area, large cemeteries of 30-40 individuals, are found in Preceramic Cuban (Ciboney) burials (Versteeg *et al*., 1990:2, 37-39).

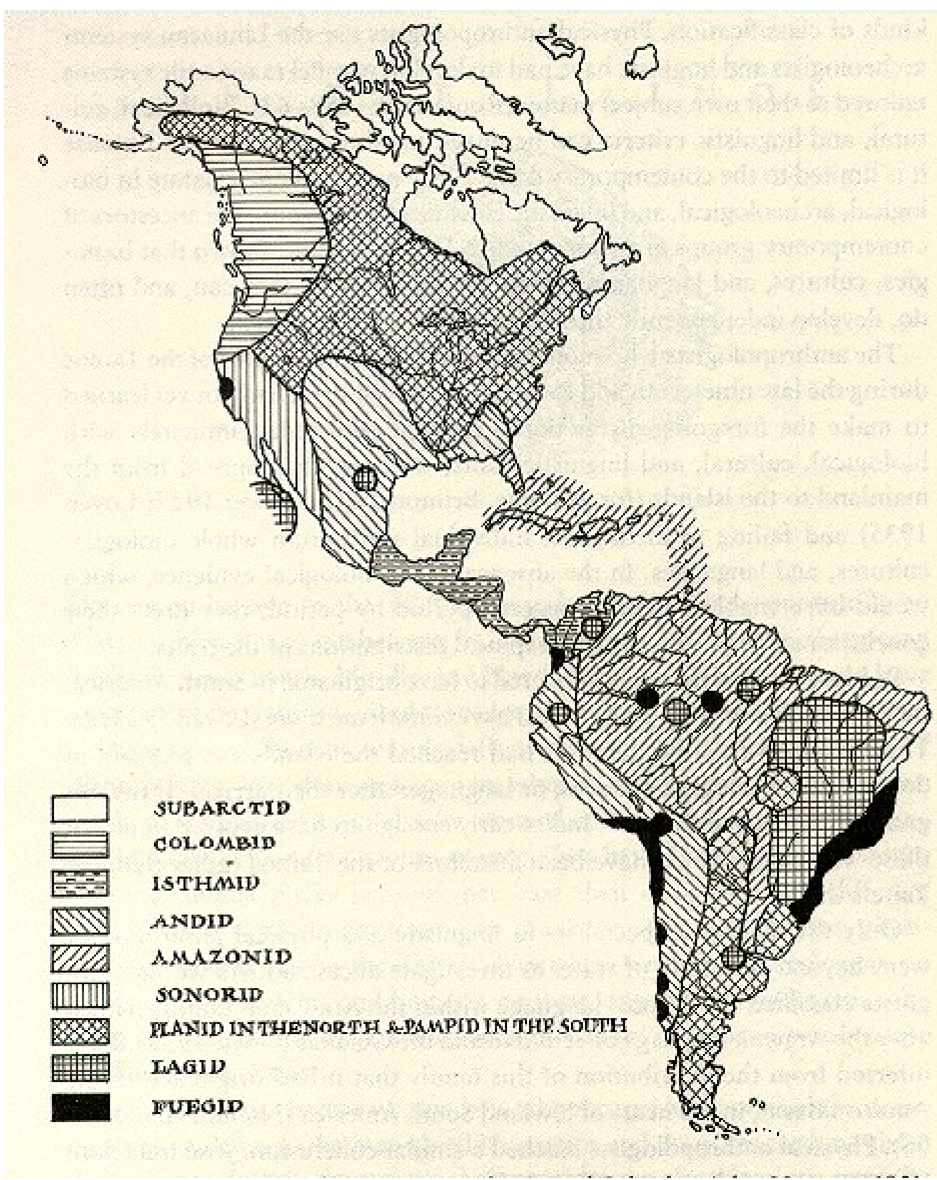
The complexity of the Malmok cemetery was meant to function as territory marking, knowing that hunters/gatherers have the tendency to mark their territory by the placing of cemeteries. Formal disposing areas also emerged at the end of the Preceramic Period in other parts of the world, interpreted as an expression of territoriality, an increased residential stability associated with economic changes (Chapman, 1981:76 in Versteeg *et al*., 1993:1; Versteeg *et al*., 1990: 31).

The Malmok people were fisher-hunter-gatherers who went after the natural resources of the island, sea turtles, fish and shellfish, herbs and seeds like the cactus seeds, snails and small game. Probably similar groups occupied other parts of the island, each having their own territory where their collecting activities took place, but stress on the resources could occasionally have played an important role, reason why a formal cemetery like the one from Malmok emerged, to emphasize their traditional rights to the use of the area (Versteeg *et al*., 1990:31). The Malmok band was probably further divided into two clans; a northern clan where the graves seldomly have shells, and a southern clan where a positive association with shells in graves is found (Versteeg, 1994b:119-121). The pressure from more advanced technological groups, like the larger Ceramic communities, could also have triggered the changes in the Malmok society; the Preceramic Indians possibly felt threatened by the arrival of the ‘new’ Ceramic Indians (Versteeg *et al*., 1990:31; Holleman, 1993:7; Versteeg, 1994b:117).

3.4.2.3 Evaluation

The characteristics of the Preceramic sites are: 1) They are limestone associated; 2) They have high percentages of bivalves: and 3) They lack pottery. The studies on all skeletal remains of Aruba (and Bonaire and Curaçao) show that there were physical distinctions between the Preceramic and the Ceramic people; the Preceramic people are characterized by a 100% incidence of shovel-shaped-incisors, and by relatively high, narrow, and long skulls (Tacoma, 1991:813). While the Ceramic (Dabajuroid) people only have in some cases shovel-shaped-incisors, and their skull-shape is relatively low, wide (*brachy*- to *hyperbrachycran*), and short (Versteeg, 1990:12, 39-40; Versteeg, 1993:2). The low-headed skull group is situated in a relatively compact area in the north-western part of South America, while the high-headed skulls, of which considerable antiquity has been claimed, were found in the more marginal areas, which leads to the conclusion that the people with low-headed crania form a recent intrusion into South America, and that the marginal high-headed groups are older (Tacoma, 1959:110).

The skeletons excavated on Aruba (and Bonaire and Curaçao) are identified as Imbelloni's (1938) Amazonid group, which physical features are defined as a short to medium tall stature (slightly less than



1,60m), robust build, head from medium-long with *brachycephalic* tendencies and a skin color relatively light. The Guayanas, Venezuela, the Amazonian drainage area, the Antillean Archipelago and South-Florida belong to this group. The Lake Maracaibo is the seperation line between the Amazonids and the Isthmids, who cover the entire Central-American region (Tacoma, 1959:98-99) (*fig. 17*).

Figure 17. Racial Groups in the Americas (after Newman, 1951 pl.9 in Rouse, 1992:28).

The Warao, Indians of the Orinoco Delta who are a relict of the Archaic Age, have retained their cultural, linguistic, and racial heritages, and their language has been classified in the macro-Chibchan family of Colombia and Central America by Greenberg (1960, 1987). Rouse (19 91:687) suggested that the ancestral speakers may have moved eastward along the north coast of South America colonizing Aruba (and Bonaire and Curaçao) prior to the arrival of the Arawakan speakers or Caquetío (see *chapter 6*); the archaeological Dabajuroid people. If this is true, then the Preceramic people of Aruba (Bonaire and Curaçao) would belong to Imbelloni's Isthmid race, and the Ceramic people to the Amazonid race (Rouse, 1992:45). Van Heekeren (1960:115) even suggested a Ciboney origin on the basis of the "diagnostic shell gouge" for the earliest settlers of Aruba.

The question remains: by which archaeological Meso-Indian cultural area were the Preceramic people of Aruba influenced or originated; from El Heneal, Manicuare, or another cultural area?
The aspects shared by the Aruban and Curaçaoan Preceramic people suggest that similar Preceramic populations inhabited these islands (Versteeg & Ruiz, 1991:2; 1995:76). The common characteristics of the Preceramic Aruban and Curaçaoan sites of Canashitu, Malmok, Hato and St. Michielsberg, namely the posture of the dead, association with limestone, and high skull shapes, suggest one (Preceramic) tradition with a long cultural continuity between 4000 B.P. and 1700 B.P. on the Dutch islands off the Venezuelan coast (Versteeg *et al*., 1990:37). Based on these and other findings, Haviser thinks that the first Preceramic settlers, who came to Curaçao in 4000 B.P., left the island at about 3000 B.P., then migrated to Bonaire and probably also to Aruba (Haviser, 1987, 1991). However, Dahn assumes that Aruba was populated from the Venezuelan mainland (Dahn, 1970:11).
According to Oliver (1989:434-435) Preceramic lifestyles survived well into the first millennium A.D., just like the Malmok people, and has a region validity which means that it is not restricted to Aruba alone, implying that there could have been a symbiosis between the Preceramic and Ceramic people of the island of Aruba (Versteeg & Ruiz, 1991:2; 1995:76; Versteeg, 1994b:113). It could be that the Archaic Age people were absorbed into the Ceramic lifeways, as Haviser suggested for Bonaire (Haviser, 1991:56, 60).
The diagnostic Preceramic pointed tool of the *Strombus columella* found by Haviser on Curaçao and Bonaire, seems to have little diagnostic value for Aruba, as it was found in many Ceramic sites on Aruba (e.g. Savaneta, Santa Cruz and Tanki Flip), what leaves no doubt that it has also been used by the Ceramic

period people of Aruba (Versteeg & Ruiz, 1991:17; 1995:19). Versteeg finds it totally unacceptable to suppose, on the basis of the occurrence of the shell gouge, that most Ceramic sites have a Preceramic component (Versteeg & Ruiz, 1991:17).

The Preceramic Period on Aruba begins around 2500 B.C. and lasts until 900/1000 A.D. with the arrival of the first agricultural Ceramic people, called the Dabajuroid people, who didn't only differ in their culture, their economical base and had larger communities, but also differed in their physical (cranially) aspect (Versteeg, 1991b: 11; 1991c:6).

3.5 CERAMIC PERIOD OF ARUBA

3.5.1 Introduction

A total of 58 sites are classified as Ceramic sites (*fig. 14*), with 2 stone extraction sites (Coashiati, Dos Playa) possibly also used by the Preceramic people, and 6 have Ceramic and Colonial remains, which are ascribed to the Colonial Period (Versteeg & Ruiz, 1995:21).

Most of the Ceramic sites are situated on or closely associated with the crystalline areas of the island, which have the best hydrological (roois) and soil condition (suitable for raindependant agriculture under special conditions), what was very important for these agriculturists (Versteeg, 1991c:13; Versteeg & Ruiz, 1995:24, 64).

There are three sites qualified as large villages, namely Santa Cruz in inland Central Aruba, Savaneta in coastal South-East Aruba and Tanki Flip in inland West Aruba, and two are categorized as medium-sized sites namely Tanki Lender and Parkietenbos-west, all covering several hectares (Versteeg & Ruiz, 1991:18; 1995:21). The first three sites were permanent settlements for long periods, while the last two were permanent settlements for at least some decades by a not very small population (*ibid*.). They are located at the confluence of roois like Santa Cruz and Tanki Flip, or close to the sea, like Savaneta (Versteeg, 1991b:11). These sites are partially destroyed by sand digging, modern building and pot-hunting (Boerstra, 1974:13). Around Santa Cruz and Savaneta in prehistory probably the same conditions existed as at Tanki Flip, but the more undulating area probably lost much of its good soil due to erosion between 1500 A.D. and today (Versteeg & Ruiz, 1991:24).

The rest of the Ceramic sites are much smaller, and interpreted as exploitation camps or small permanent settlements, but it is doubted that the archaeological remains should be associated with living activities (Versteeg & Ruiz, 1991:18; 1995:22). The data of these smaller sites is scanty, so it's difficult to distinguish between camping activities (very short period) or a more or less permanent inhabitation in a few houses (Versteeg & Ruiz, 1995:23).

The three big sites were radiocarbon dated between 880 and 1390 A.D., which places them in the Neo-Indian Period IV (Ayubi *et al*., 1985:396). They have been investigated by different amateur- archaeologists

and professional archaeologists, of which some were of importance for the understanding of these sites, and will be treated to some extent to get a better picture of them.

The Aruban Indians of the Ceramic Period (Dabajuroid) were part of a bigger culture from the mainland after whom they are named (Cruxent & Rouse, 1958, 1961; Du Ry, 1960; Rouse & Cruxent, 1963; Sterks, 1982; Ayubi *et al*., 1985). They have the same pottery, differentiated burial practices and other similar aspects (Versteeg & Ruiz, 1991:24).

3.5.2 Santa Cruz

In the Santa Cruz area in Prehistoric times probably good soils were found, but this flat area lost much of its good agricultural soil through erosion in the last 500 years (Versteeg & Ruiz, 1995:64). Now it has a sandy soil with a diorite subsoil (Versteeg & Ruiz, 1991:25). The site is located in the center of inland Aruba (*fig. 14*, site no. 81), it is cut by several small roois, and is situated near their confluence, whose beds are completely dry except for some weeks a year during the rainy season, just like at Tanki Flip (Boerstra, 1974:13). The distance to the sea is ca. 3.5 km, and the site measures ca. 275 m in an east-west direction, and ca. 400 m in a north-south direction (Versteeg, 1988b:19; Versteeg & Ruiz, 1991:25). This means that this site is some 10 hectares big, making it the largest archaeological site on the island. The western part of the site is called Santa Cruz, while the eastern part is called Ceru Noka (after the rock formation in the northern part of the site). Both the eastern and western parts of the site are the result of one village located on both sides of the two north-south running roois, and consequently the name of the entire site is Ceru Noka/Santa Cruz (Versteeg, 1988a:14).

There are four datings of Santa Cruz:1) 3300 ± 35 B.P., which is much too old; 2) 990 ± 30 B.P; 3) 910 ± 170 B.P., corrected age 580 ± 170 B.P.; and 4) 870 ± 80, corrected age 540 ± 80 B.P. The first two datings are charcoal datings, while the last two are from human bone (Versteeg *et al*., 1990:65). These dates place the Santa Cruz site in the Neo-Indian Period IV.

The site is characterized by numerous surface finds of potsherds (5% decorated), worked stones, and shell remains (Boerstra, 1974:13). The artefacts are interpreted as having served as cutting, hammering, scraping, grinding, or piercing tools made of stone (sandstone, quartzdiorite), except by a few made of shell. The small flint chips are the only type of flint artefacts that can be distinguished (Boerstra, 1974:15). There was an abundance of shell remains and fish bones, implying an important contribution to the diet (proteins) of these people from marine food (Boerstra, 1974).

Boerstra found an ashy pit surrounded by a horse-shoe formation, and also burials, including urn burials (Boerstra, 1974:15). A lot of urn burials have been found here during the last century, while in 1991 house structures with graves and hearths were found by Versteeg on an area of 350 m² with 118 Indian features (Versteeg & Ruiz, 1991:27-28; Versteeg, 1992:4; 1993c; Holleman, 1993:7). In 1992, 607m² were

excavated, where the usual material and burials were found, and a possible oval structure of 12 meters in diameter was discovered (Hermers, 1992:4).
The individuals found during the 1992 excavation, seem to have had a reasonable health. Most of the death were older individuals, of which the majority died of a natural cause. No broken bones were found, but infirmities of old age like *artrose* and 'falling teeth' were present (Holleman, 1993:8).

The pottery of this site has been ascribed to the Dabajuroid series of Venezuela (Du Ry, 1960; Rouse & Cruxent, 1963). Oliver (1989) classified the site as 'Early Urumaco' and 'Late Urumaco' within the Macro-Dabajuroid Tradition. The Santa Cruz pottery is also called 'the Santa Cruz style' (Du Ry, 1960:88, 90-93). The pottery was made with the coiling technique, but no paddle and anvil technique was detected by Du Ry who investigated this pottery (1960:90-91). The frog motif (modelling) and the coffee-bean eye are very characteristic (*ibid*.). Most of the tempering of the clay is done with quartz or sand, while shell or limestone tempering like at Tanki Flip, was not noted by Boerstra (1974:16-17).

An interesting point is that five zone-incised -crosshatched (ZIC) sherds were found in this site, of which Du Ry (1960:88-91) claims that they are Saladoid ('Cedros-style') pottery. Rouse and Cruxent (1963:110) think that these sherds are Guapoid trade sherds, as certain Guapoid trade objects were recovered from the Barrancoid sites of the central Venezuelan coast. The effect of its trade possibly extended farther westward, because some crosshatch-incised sherds have been found at the top of the Meso-Indian shell heap of Cero Iguanas in the Tucacas area. Oliver (1989:3) speculates that this intrusive unit is the result of direct contacts between Aruba's resident Meso-Indian people and people of the Guapoid-Ronquinoid Tradition in the eastern coast of Venezuela, where in late Meso-Indian periods they contacted Coastal Saladoids. Because on the three Dutch Leeward islands no more of these sherds were found, Sterks (1982:11) thinks that these Santa Cruz sherds are the result of an administrative error, as Du Ry and Van Heekeren also visited Trinidad in the same period, and could have mixed this material with the Aruban sherds.

3.5.3 Savaneta

This area also must have had good agricultural soils in prehistory and, just like at Santa Cruz, due to erosion this flat area also lost much of the fertile soil between 1500 A.D. and today (Versteeg & Ruiz, 1995:64).
The site is situated on the southeastern coast (*fig. 14*, site no. 76), at the junction of some small roois, while the distance to the sea is about one kilometer (Boerstra, 1974:17; Versteeg, 1988b:19).
Three datings are known from this site: 1) 940 ± 25 B.P.; 2) 1040 ± 45 B.P.; and 3) 1000 ± 30 B.P. All three datings are charcoal datings (Versteeg *et al*., 1990:65). These datings also place the Savaneta site in the Neo-Indian Period IV. Lots of burial urns were found here, just like the usual other artefact categories of stone, shell and bones, and also many pre-Columbian features were discovered (Boerstra, 1982:13).

The pottery of this site has also been ascribed to the Dabajuroid series (Rouse & Cruxent, 1958, 1961, 1963), while Oliver (1989) classifies the site as 'Early Urumaco' and 'Late Urumaco', possibly in transition into 'Los Medanos' within the Macro-Dabajuroid Tradition. The Sabaneta pottery is also called 'the Sabaneta style' (Du Ry, 1960:93-94). Grit and shell tempering occur, and the material from this site corresponds closely with that from Santa Cruz, but a thin, hard-baked greyish ware is lacking in this site, while at Santa Cruz this ware is present (Du Ry, 1960:93-94).
An interesting point of this pottery is the black-on-red ware, which is typical of the Los Médanos Phases, and particularly the avemorphic motifs which were also found in the Santa Cruz site, and point to contact with the Ranchería valley in Colombia. This will be treated in more details in the paragraphs concerning the mainland Macro-Dabajuroid Tradition.

3.5.4 Tanki Flip

The site is located in inland Northwestern Aruba (*fig. 14*, site no. 101), and the soil of this site still is a good soil for agriculture, and lies, as stated before, between two roois. The distance to the sea is some 2.5 kilometers (Vesteeg *et al., in prep*., 1997). The Tanki Flip datings range between 1080 and 340 B.P. (*table* 1). These datings obviously also place the Tanki Flip site in the Neo-Indian Period IV.
Heidecker and Siegel divided the archaeological findings into four groups: shell, bones, worked stones (chipped and ground stone) and pottery (9000 sherds; less than 4% was decorated); almost all the bones were from fish (Heidecker & Siegel, 1969:8). They excavated the site vertically in two layers, and noted that more bone was present in layer II (92% of the total bone weight) than in layer I, while layer II contained twice as much decorated pottery as layer I (Heidecker & Siegel, 1969:9, 11). The pottery was ascribed to the Dabajuroid series of Venezuela, but they found slight resemblances with the Calviny series of Granada. They attributed the similarities to the separate contacts with Venezuela than to inter island contact (Heidecker & Siegel, 1969:12-13). One adorno of a frog head resembled those found at El Palito (Puerto Cabello area; central Venezuelan coast), while some beads are similar to some found in Venezuela (Heidecker & Siegel, 1969:13).
It is interesting to note that of the chipped stones Heidecker and Siegel found, 700 were chert flakes, while we know that on Aruba there is no local chert source, which means that they must have been imported. (Chert/flint is found in all the Dabajuroid sites).

Between 1975 and 1977 Boerstra excavated an area of 4400 m² (ca. 15% of the total site area) in which 5000 human made soil marks were uncovered, and indicated post-holes, burial pits, pits containing ashes and charcoal, possible storage and refuse pits, and many that couldn't be interpreted functionally (Boerstra, 1983:173). Boerstra also mentions that the pottery style belongs to the Dabajuroid series of Venezuela. The soil marks interpreted as ditches were distinguished into two kinds; the narrow and very shallow ones (20-30 cm wide and 163 cm long, not deeper than 5 cm), and some that are wider and deeper (1.05-1.65 m wide

and 12-35 cm deep). To all depth measurements some 30 cm should be added, because of the removed topsoil (*ibid*.). The wide ones were numbered I, II and III, and the exposed part of ditch III was nine meters long (*fig. 18*).

The ditches were interpreted as being pre-Columbian human made (paleo-roois), and functioned during it's Ceramic occupation, implying that the Dabajuroid people had the knowledge and the means to maintain a certain water management in and around their settlement (Boerstra, 1983:173-177). Probably the ditches were used as drainage, due to their location in the terrain (Boerstra, 1983:176-177; Ayubi *et al*., 1985:397).

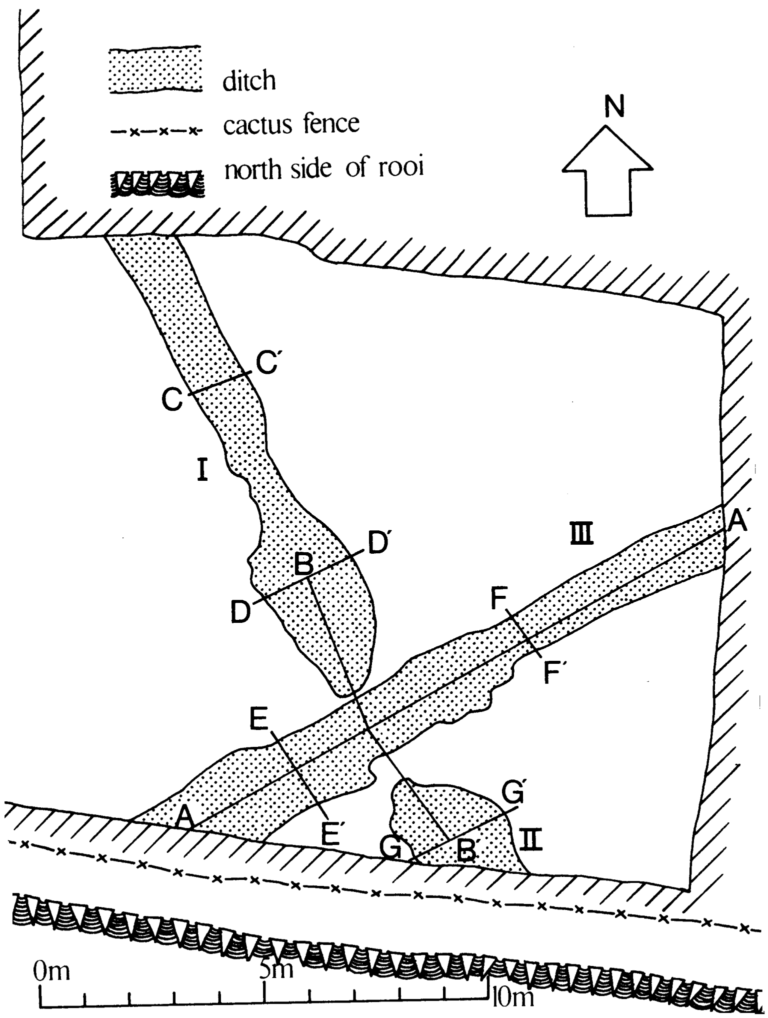


Figure 18. Part of the Groundplan of the 1975-1977 Tanki Flip Excavation showing the Position of Ditches I, II, III (after Boerstra, 1983:178).

Chert fragments, diorite and basalt hammerstones, quartz and coral rock fragments, sandstone, diabase, and manos and metates were also present. Most of the excavated material, besides pottery, was shell with the

majority coming from the *Strombus gigas* (Boerstra, 1983:175). Boerstra also recognized the pottery from Tanki Flip as belonging to the Dabajuroid series (Boerstra, 1983:173). Prior to my investigation, this site had not been placed yet within the newly formulated Macro-Dabajuroid Tradition of Oliver (1989).

In the 1994 excavation, an area of ca. 50 × 50 m was excavated (7.5% of the total site area), in which about 2500 features were found of which ca. 2000 were of a possible Indian origin. Fifteen structures were recognized of which some are probably house structures. Shell, stone and coral artefacts, bone, faunal remains, hearths, human burials and lots of pottery were found (Versteeg *et al. in prep*., 1997).
Tanki Flip was a well fenced-in settlement in the period 950/1000-1250 A.D., and probably concentrated in the north part of the site, while after 1250 A.D. a less well-organized inhabitation continued in the north, and in this same period inhabitation concentrated in the south part. They had a recent mainland, probably interior mainland (not a coastal) tradition. In the 1994 excavation, several indications were found for typical mainland items not available in Aruba (Versteeg *et al*., *in prep*., 1997). Before 1400 A.D., inhabitation stopped entirely, until ca. 1830 A.D., when the area was used for agricultural activities (*ibid*.).

3.5.5 Evaluation

The three large and two relatively large Ceramic sites, were permanent villages and had a network of satellite sites for fishing, shellfish collecting or agricultural activities around them (garden locations or food collection locations) (Versteeg & Ruiz, 1995:22-24). Most of the sites are located in the crystalline area of Aruba, while some are located outside this area. Of the latter sites the majority of finds is shell, and have a few pottery artefacts; they may be Preceramic sites with a small admixture of pottery (Versteeg & Ruiz, 1995:24). The sites have bone and shell refuse, worked stone objects, pottery fragments, and burials (Boerstra, 1974:13). House structures have also been recognized, but were not big malocas like those we would expect from early Spanish documents, and especially as Aruba was part of the mainland Caquetíos who were at a chiefdom cultural level with much bigger populations and communal houses.
The Ceramic people were sedentary horti-culturalists, of which the total population shouldn't be counted in thousands, but in hundreds (Versteeg & Ruiz, 1991:10).
The Dabajuroid (Caquetío) people were good merchants and skilled navigators (Van Heekeren, 1969:116), but on Aruba no trees big enough for canoes are/were to be found, which means that the canoes were taken from the mainland, or that the trees were taken from the mainland, and the canoes were then manufactured on the island (Boerstra, 1982:78-79). This and a lot more archaeological data show constant contact with the Venezuelan mainland. Probably direct contact with Curaçao, located at a distance of 78 km from Aruba, was very little, despite the great similarities in archaeological material; even at the end of the nineteenth century traffic between these islands was very difficult (Hartog, 1953:1). This is probably due to the strong and treacherous sea currents, and Curaçao (and Bonaire) is only accessible with great difficulty (Van

Heekeren, 1960:116), reason why contact between Aruba and Curaçao (and Bonaire) possibly went for a great deal via the mainland.

The 'mixed strategy' (Clarke, 1968), farming maize and manioc, which is only found on these islands and not in other Dabajuroid sites, point to cultural interaction between the eastern (manioc) and western (maize) centers of northern South America/Venezuela (Haviser, 1987:52, 1991:42). Also the five ZIC sherds point to that direction. While Du Ry also thinks that Aruba traded with Northeastern Venezuela in remote times (Du Ry, 1960:85).

Also Valencioid (Central Venezuela) characteristics can be found on the pottery, of which the exact origin is not known yet, but could indicate direct contact with Central Venezuela (Sterks, 1982:10). According to Van Heekeren, also the great degree of ceremonialism (very differentiated burial practices) points to direct connection with the Valencia district of Venezuela (Van Heekeren, 1963:20-21). The Savaneta style pottery (Los Medanos) furthermore points to direct contact with the Guajira Península and Coro (see *§ 3.8.3.4*).

Broad-winged ornaments (stone/shell) possibly representing the Bat God, and small stone amulets, known from the Andean area (Trujillo) (A. Kidder II, 1944: 135-137; S. Pérez Soto de Atenacio, 1971:169-171), were also found on Aruba (Ruiz, *pers. comm*.). These ornaments are confined to the Andes, and came in other areas possibly because of trade (Kidder II, 1944:135). Van Heekeren thinks that among trade items, salt and shell beads were probably used for the earliest maritime staple trade between Aruba and the South American continent (1960:110).

It is interestring to note that a pottery stamp has been found showing typological similarities with stamps from Haïti and Santo Domingo. Furthermore three sculptured stone statuettes have been found on the island, but the origin is unknown according to Versteeg (1991c:18), but were certainly not made in Aruba. One figure representing a sitting man with coffee-bean eyes, however was found at a washed-away wall of a rooi at Tanki Lender, and is made of crystalline limestone and has a height of 27.5 cm (Ayubi *et al*., 1985:397, fig. pp 395). I have found a striking resemblance with a human figure made of coral limestone found in the Dominican Republic (the only difference is that it hasn't got coffee-bean eyes), of which Rouse says that they are Taino falsifications (Rouse, 1992:164-165 fig.40b). Also Oliver agrees with this statement (*pers. comm*.).

Aruba had connections with Northwestern, Central and Eastern Venezuela, the Guajira Península in Colombia, and possibly even with inland Venezuela in the Andean area. Of connections with the Greater Antilles, I think not much can be said yet, as this should awaiten further investigations. These different influences are clearly the result from diffusion or trade, rather than migration.

The Dabajuroid Indians arrived at Aruba in 900/1000 A.D., coming from coastal Falcón (Versteeg *et al*., *in prep*., 1997). The three sites, inhabited between 900/1000 and 1500 A.D., have the "same" Dabajuroid pottery and archaeological material, except for Parkietenbos which has no decorated pottery (Versteeg & Ruiz, 1995:64). However, Du Ry (1960) concluded that, although the pottery of the Santa Cruz and

Savaneta sites are very similar, they must be classified separately, which insight proved to be true, as Oliver (1989) convincingly showed with his Urumaco and Los Médanos phases within the Macro-Dabajuroid Tradition. The majority of the pottery of Aruba, Curaçao and Bonaire found in the Dabajuroid sites are similar (Sterks, 1982:10; Ayubi *et al*., 1985:396; Oliver, 1989:421-486). The differences are interpreted by Versteeg as being "within the normal range of individual sites", despite the fact that he mentions that Oliver has identified different styles within his Macro-Dabajuroid Tradition (Versteeg & Ruiz, 1991:2; Versteeg & Ruiz, 1995:76). Concluding from his results on the pottery from the Golden Rock site on St. Eustatius (Versteeg & Schinkel, 1992:71), he states that "long-standing cultural continuity in the pottery manufacture process, and the concepts behind it, make pottery unfit to use as a diagnostic instrument for more than a very rough chronology", which leaded him to suggest that probably the same counts for the Dabajuroid complexes on Aruba, Bonaire and Curaçao (Versteeg & Schinkel, 1992:250). Versteeg furthermore doesn't agree with a bipartition along island lines (Versteeg & Ruiz, 1991:2). Van Heekeren strongly believes in an archaeological distinction between these islands; Bonaire and Curaçao on the one hand, and Aruba on the other hand (Van Heekeren, 1960:116; 1963:16, 20). Maybe the most striking differences are those relating to urn burials, as Aruba is rich in urn burials, while on Bonaire and Curaçao very few burial urns are found (Van Heekeren, 1963:20). Du Ry (1960:95) also noted differences in temper, colours, and slip, while 'dotted painting designs' are characteristic for Curaçao and Bonaire.

Haviser (1987, 1991) also agrees with this bipartition, which is strengthened by the fact that historical documents point to a different Caquetío clan (*Indios Curaçaos*) living on Bonaire and Curaçao (see *chapter 5*). According to Haviser (1987, 1991), these Ceramic Period Indians called the Ocumaroid people, presumably firstly arrived at Bonaire at about 470 A.D., and later colonized Curaçao, while ca. 800 A.D. the Dabajuroids arrived there. This means that the Ceramic Period on those islands began some 500 years earlier than the Ceramic period on Aruba.

Oliver (1995:18) however doesn't agree with Haviser's theory, because the dotted painting designs[19] on the pottery of Bonaire and Curaçao are probably a local innovation and is only slightly different from the Dabajuran styles, while all other modes are well within the expected range of variation within the Dabajuran subseries. Furthermore the shell and bone dates (notoriously unreliable) he gives no value, and charcoal dates for the Wanapa site in Bonaire, and two from the Knip and San Juan sites in Curaçao accepted by Haviser, Oliver regards as highly suspicious for various reasons (Oliver, *ibid*.). The Ocumaroid series are however a poorly understood style of the central Venezuelan coast (Haviser, 1991:54). It is interesting to note that Van den Bel (1995:90-97) noticed from the ethnological Palikur potters of French Guyana that they have distinctive painted designs for each clan-name, which are painted on vessels, basketry and

[19] The red and brown painted dotted designs would be diagnostic of the Ocumaroid Tradition (series). This tradition is located in coastal Central Venezuela, but is very poorly understood.

calabashes, and maybe this could give an alternative explanation for the red and brown painted dotted designs on the pottery of Bonaire and Curaçao.

In any case, the pottery of these islands are quite complex, a tendency which is also visible within the islands. The pottery of Aruba has most similarities with the type style, as being geographically closest to the Dabajuroid heartland and is subsequently the most complex, while in Bonaire these aspects are the least complex (Sterks, 1982:12; Van Heekeren, 1960:116).

The Ceramic Period begins around 900 A.D. and ends in 1515 A.D. when most of the Dabajuroid people (Caquetío) are deported to Hispaniola. According to Versteeg and Ruiz (1991, 1995) we must see the Ceramic Indian population on a green, forested island, with low xerophytic trees, on a thicker soil than at present. The water of the heavy showers was filtered by the trees to the soil, by the soil to the roois, where again trees kept it for a longer time than nowadays. The roois covered with trees must have had much lower evaporation rates than values recorded at present in uncovered areas.

3.6 HISTORIC PERIOD OF ARUBA

The classification of sites to the Historical or Colonial Indian Period (Indo-Hispanic Period V) has given some problems, as many sites on the island have glass bottle sherds and other modern material on the surface. The indigenous inhabitants of this period manufactured undecorated pottery, while European pottery was imported (Versteeg & Ruiz, 1995:25). Four Colonial sites inhabited by primarily Indians in the Historical Period are Sero Cristal, Alto Vista, Pos di Noord and San Barbola (*fig. 14*, sites no. 86, 1, 68, 79).

Sites of this period are located in Northern Aruba between Alto Vista and Sero Cristal, with a few sites elsewhere, which corresponds with observations made by e.g. Bosch (1985 [1836 II]) and Nooyen (1962, 1965); the Indians of this period tried to live as far away as possible from the European settlers.

Sero Cristal is a one-component historical Indian site, reflected in the traditional, but coarse pottery, coral tools, shell food remains mixed with eighteenth century glass beads and sherds of eighteenth century bottles (Versteeg, 1988b:13; 1988c:3-8; 1991c:23; Versteeg & Ruiz, 1995:27). The bottle sherds are very similar to the pre-Columbian cutting tools, while other European materials, like china ware, were used as a raw material for perforated beads. Alto Vista, Pos di Noord and San Barbola have similar characteristics (Versteeg & Ruiz, 1995:27)

Six sites were both inhabited in the Ceramic and Historical Period by Indians, while other sites were probably also inhabited in the latter period, like Tanki Lender (European pipes; bowls and stems and other European artefacts) and Tanki Flip where, according to Van Koolwijk an Indian lived a few decades before 1880, but because in the 1994 excavation no Colonial Indian material was found, it is not included as a Colonial Period Indian site (Versteeg & Ruiz, 1995:27-28).

This means that there are 10 Indian sites of the Historical Period, and they are situated in the crystalline part of the island (*fig. 14*), what would suggest that their inhabitants were dependent on agriculture. Most of the Colonial Period remains from before 1800 A.D. reflect Indian usematerial, or European material modified by Indian workmanship (Versteeg & Ruiz, 1995:28). This period probably ends about 1850, when a mixture of the different cultures living on Aruba was developing, with the last full-blooded Indian dying around the 1850's. More information of this period follows in chapter 4.

3.7 ROCK PAINTINGS

There are 17 sites with rock paintings (*fig. 14*), with in total ca. 300 pictographs (painted representations), including 2 petroglyphs (representations ground into the rock). They amount between 270 and 330 separate representations (*fig. 19*). Generally there is no clear relationship between pictographs and petroglyphs, neither chronologically, nor with regard to their possible meaning (Dubelaar, 1986:3).
The colours of the petrographs are white, red and brown (one occasional black one), and are done on diorite or on limestone in an inland or coastal location (Van Koolwijk, 1882; Wagenaar Hummelinck, 1953, 1959, 1961b, 1972; Ayubi *et al*., 1985:396; Dubelaar, 1986:162, 167). The red paint's red component is iron-oxide, and the white one is chalk (Versteeg & Ruiz, 1995:34).
There are numerous explanations for the meaning of rockpaintings, also in relationship with the place where they are found, but as Dubelaar (1986:82) stated, the petroglyphs/pictographs are possibly predominantly meaningful figures, but they don't contain an explicit message.
In the rockpainting sites of Aruba, often sherds, stone tools, and shell refuse are found, but in small quantities; this doesn't reflect habitation, as also in the soil very little is found (Boerstra, 1982:15).
Pictographs within ten meters of distance between each other are considered one site, while sites situated nearer to each other than 500 meters are considered one cluster (Versteeg & Ruiz, 1995:29). At Arikok four clusters of petrographs are situated on a north-south line over a distance of 415 meters, while the distance between the groups are 50 to 100 meters. Two other groups are situated ca. 50 meters west of this line, and straight or slightly curved lines interlink 2 to 5 sites. The positions of the pictographs were not randomly chosen, but were meant to be in those locations, however it remains a question how their makers did this (Versteeg & Ruiz, 1995:32).

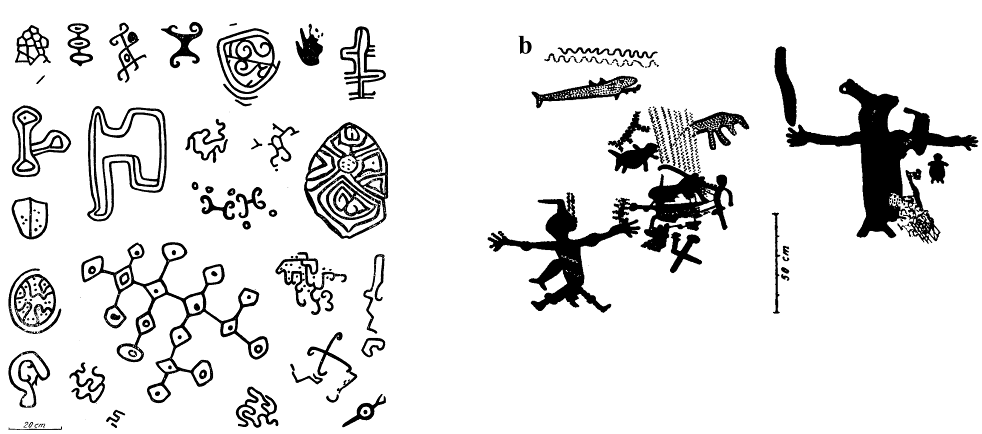


Figure 19. Selected Rock Paintings from Aruba (after Wagenaar Hummelinck, 1957:102, 112; 1972:58). Pictographs, a. Fontein, b. Arikok; Petroglyphs, c. Siribana.

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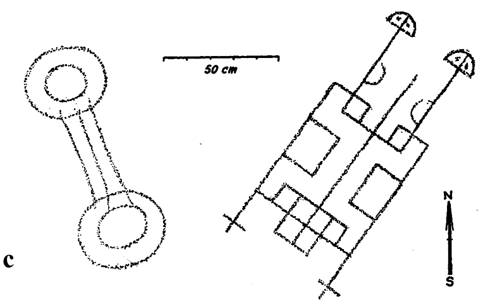


Pictographs are found on Aruba, Bonaire and Curaçao and the Greater Antilles, while none[20] has been found in the Lesser Antilles (Dubelaar, 1991:613). The opposing mainland has few pictographs, which distinguishes the Dutch Leeward islands from the mainland in their archaeological record (Versteeg & Ruiz, 1995:34).

Bonaire and Curaçao, which have a smaller number of rockpainting sites than Aruba, share many motifs with those found on Aruba, but petroglyphs and white painted pictographs are only found on Aruba (Wagenaar Hummelinck, 1953, 1957, 1961, 1972, 1991). There's a possible link with Venezuela[21] (*fig. 20*) where there are concentrations along the Orinoco River north to the Apure River junction, into northwest Venezuela via the Portuguesa or Guanara Rivers, via the Tocuyo River into the Dutch Leeward islands (Haviser, 1991:97).

The pictographs have not been ascribed to the Preceramic or Ceramic Period, but as noted before, Versteeg and Van Leeuwen have collected organic material and through the A.M.S. technique (Accelerator Mass Spectometry) dating will be tried. Because common cultural components have been found in burial parameters of late Preceramic groups on Aruba and on Cuba (Versteeg *et al*., 1990:38), the rock paintings could have a Preceramic origin, but the evidence supplied by the archaeological record is scanty (Ayubi *et al.*, 1985 :396; Versteeg & Ruiz, 1995:34). Van Heekeren suggested that the rock paintings were made by the Meso-Indians (Van Heekeren, 1960:19 in Sterks, 1982:10).

According to Nuñez Jimenez, Aruba and Cuba share pictographs; they share motifs, and also one of the petroglyphs shows similarities to those from Cuba (Versteeg & Ruiz, 1995:34). However, we know that in South America and the Caribbean area various motifs are shared by different cultures (Dubelaar, 1986). In Nevada and California, and even Northern Rhodesia there are similarities with the rockpaintings of the Dutch Leeward islands, but that's because the expression possibilities of men are unlimited, and figures we think are characteristic, are simply universal (Wagenaar H ummelinck, 1972:2).

[20] Only one rock painting (petroglyph) is possibly painted; a human representation with black painted tears (Dubelaar, *pers. comm.*).

[21] In Eastern Venezuela, the Venezuelan coastal islands, Suriname and French Guyana, there are no known pictograph sites.

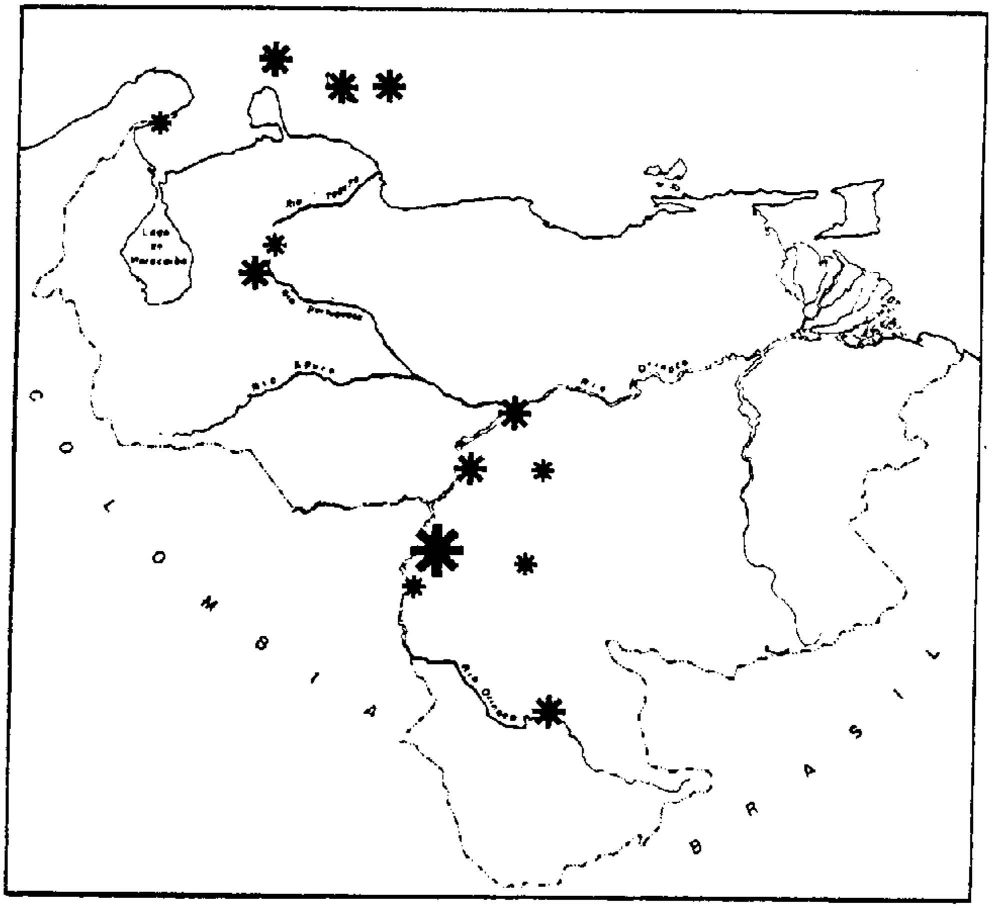


Figure 20. Distribution of Rock Painting Sites in Venezuela and South America (after Haviser, 1991:99). The asteriks indicate clusters of rock painting sites, with a variable number of sites present indicated by the size of the asterik.

3.8 WESTERN VENEZUELA

3.8.1 Introduction

As mentioned before, Cruxent and Rouse (1958-59) were the first to make an archaeological chronology for Venezuela. They classified the archaeological material finds of Venezuela and the Antilles in complexes (Preceramic) and styles (Ceramic) called *series*, which are lines of development of local periods culturally related, assuming that each period delimits a single people and culture who furthermore are known to have descended from a common ancestor (Cruxent & Rouse, 1958-59, (1):22-23; 1961, (1): 25; Rouse & Cruxent, 1963a:23; Rouse, 1964:394, 1986:127, 1992:183-184; Cruxent, 1971:21). Within each serie the most elaborate *style* is called the *type style*, which subsumes more of the variations in other styles. This means that the series are a collective name covering a series of subordinate styles, and are the total amount

of sites sharing a common material culture,'a set of similar and contiguous styles', while the styles are formed by a similar set of *attributes* (Cruxent & Rouse, 1961, (1):25; Rouse & Cruxent, 1963a:23).
While a style, complex or phase (which basically have the same meaning) represent the culture which is shared by a group of communities, a pottery style is the entire repertoire of the pottery of a group of persons developed in a single cultural period. Furthermore, each style defined by a unique set of attributes of material, shape and/or decoration, could be used to identify its area and period, and the people and culture who inhabited this area (Rouse, 1972, 1989:385 in Hofman, 1993).
Series are named after a typical complex or style adding the suffix **-***oid*, while *sub-series*, an intermediate hierarchical level introduced by Vescelius (1980), get the addition of the suffix **-***an*. In 1992, Rouse added the concept of *wares* which are part of a ceramic style, and are characterized by a different set of modes for material, technology, shape, and decoration. It is usually named after modes of decoration, and if the ware extends from one style to another, it can be named a *horizon* or *tradition* (Rouse, 1992:81, 85).

As I mentioned before, Western Venezuela is of my concern, as Aruba archaeologically belongs to this area. There is a vague dichotomy between Western Venezuela and Eastern Venezuela in Neo-Indian culture, e.g. maize was the staple crop in Western Venezuela, and manioc was the staple crop in Eastern Venezuela; their pottery differs markedly (western pottery is more complex); burials in the west was in shaft graves or urns, accompanied with many grave objects, while in the east the body was simply placed in the ground, usually without grave objects; and in the west the Indians built mounds and other earthworks, while the eastern Indians didn't. Central Venezuela would be a transitional zone having traits from the west and from the east. Pottery from Western Venezuela is related to the Intermediate Area, while pottery from Eastern Venezuela is related to the rest of the Caribbean Area, including the West-Indies and British Guyana (Rouse & Cruxent, 1963a: 54-55).

Cruxent and Rouse (1958-59, 1961; Rouse & Cruxent:1963a) defined three series in Western Venezuela:

1. Dabajuroid series
2. Tierroid series
3. Tocuyanoid series.

Oliver (1989) redefined these series into the Macro-Tocuyanoid Tradition and the Macro-Dabajuroid Tradition (*fig. 21*). The concept of *macro-tradition* is to refer to a group or set of historically related (ceramic) traditions; traditions that are hypothesized to have diverged from a common 'stock' or ancestral tradition. While such an ancestral tradition diverged and segmented into increasingly differentiated daughter units, a new group or set of traditions emerged (new lines of development). As time passed, more and more the traditions became differentiated from each other for a variety of reasons (Oliver, 1989:320). This second order called *tradition***,** Oliver uses in the sense discussed in the 1955 'Seminars in Archaeology', and in most respects is similar to Rouse's (1986:10) usage of 'ceramic series', especially in the sense that

innovation and persistence are essential in the use of tradition. Traditions represent many more features of shared similarities and shared innovations within each tradition, in terms of decorative style or vessel forms, than macro-traditions (Oliver, 1989:320). The intermediate hierarchical level called *sub-tradition*, represent further lines of development within each tradition. At this level shared innovation becomes the key criterion for further discrimination. The concept of sub-tradition is very similar to Rouse's (1986:10) concept of sub-series (Oliver, 1989:320). The third order in the hierarchy is the ceramic *complex* or *style*, and at this level also *phases* are included, if the phase divisions reflect significant stylistic changes, and not for being an arbitrary tool to divide a ceramic complex or style into smaller units of time. This level reflects a set or closely related group of assemblages and components, whose diagnostic attributes are homologous. The complexes and styles are restricted in time and space (Oliver, 1989:320-321).
The highest order taxon has the prefix *macro*- and the suffix -*oid*, the second order units have the suffix -*oid*, and the third order units have the suffix -*an*, while the complexes retain their original nomenclature, usually after a type or well known site (Oliver, 1989:322).

Cruxent and Rouse (1958-59, 1961; Rouse & Cruxent, 1963a) saw the Dabajuroid and Tierroid series as two separate series, but Oliver (1989) grouped them both into the Macro-Dabajuroid tradition. As it is clear that the Dabajuroid series are stylistically related to the Tierroid series, Oliver did this implying that both diverged from a common historical source, which he speculated would be either the Tocuyanoid series, or both series diverged at the same time from an earlier as yet unidentified complex in the Llanos (Oliver, 1989:481). However, the ongoing work by Arvelo (*pers. comm*. to Oliver) in the Quibor Valley, State of Lara, forced him to revise his hyphotesis: Dabajuran Dabajuroid sub-series may have developed from a Tierroid background, if not early Tierra de Los Indios itself (Oliver, 1995:12, 16).
For my investigation the Macro-Dabajuroid Tradition, the Dabajuroid Tradition, and particularly the Dabajuran Sub-tradition, are of importance, and for this reason I'll treat these more intensively than the Macro-Tocuyanoid Tradition and all other traditions and sub-traditions.

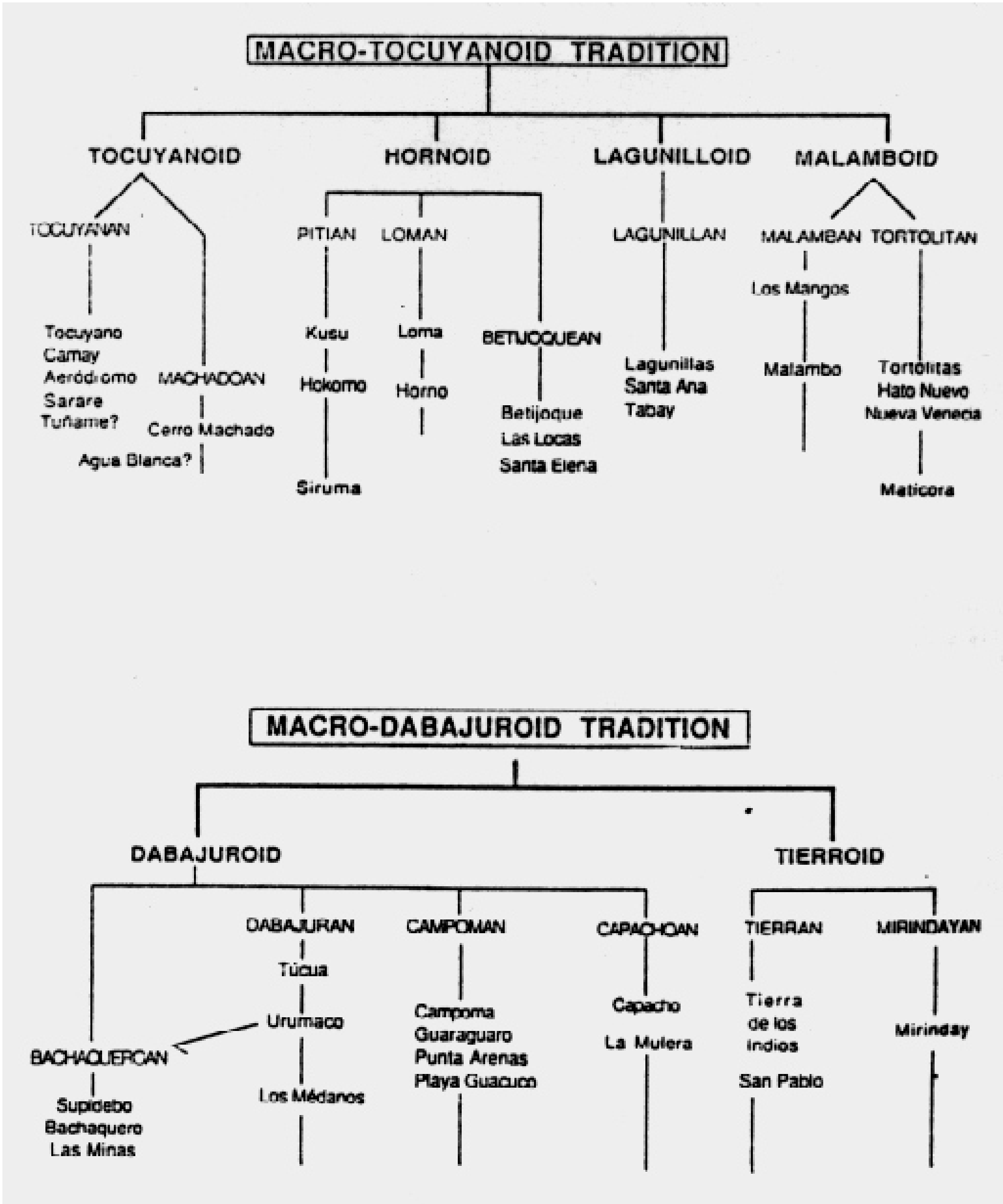


Figure 21. The Hierarchical Classification of the Macro-Tocuyanoid and Macro-Dabajuroid Traditions (after Oliver, 1989:327).

3.8.2 Macro-Tocuyanoid Tradition

3.8.2.1 Hierarchical Classification and Spatial Distribution

The Macro-Tocuyanoid Tradition is comprised of four sub-traditions with their subsequent styles and complexes (*fig. 21*).

The spatial distribution of the Tocuyanan Sub-tradition encompasses the Northernmost Llanos, the Barquisimeto plateau, the Yaracuy Valley, and possibly extended into the Tuname valley in the Trujillo highlands (*fig. 22*).

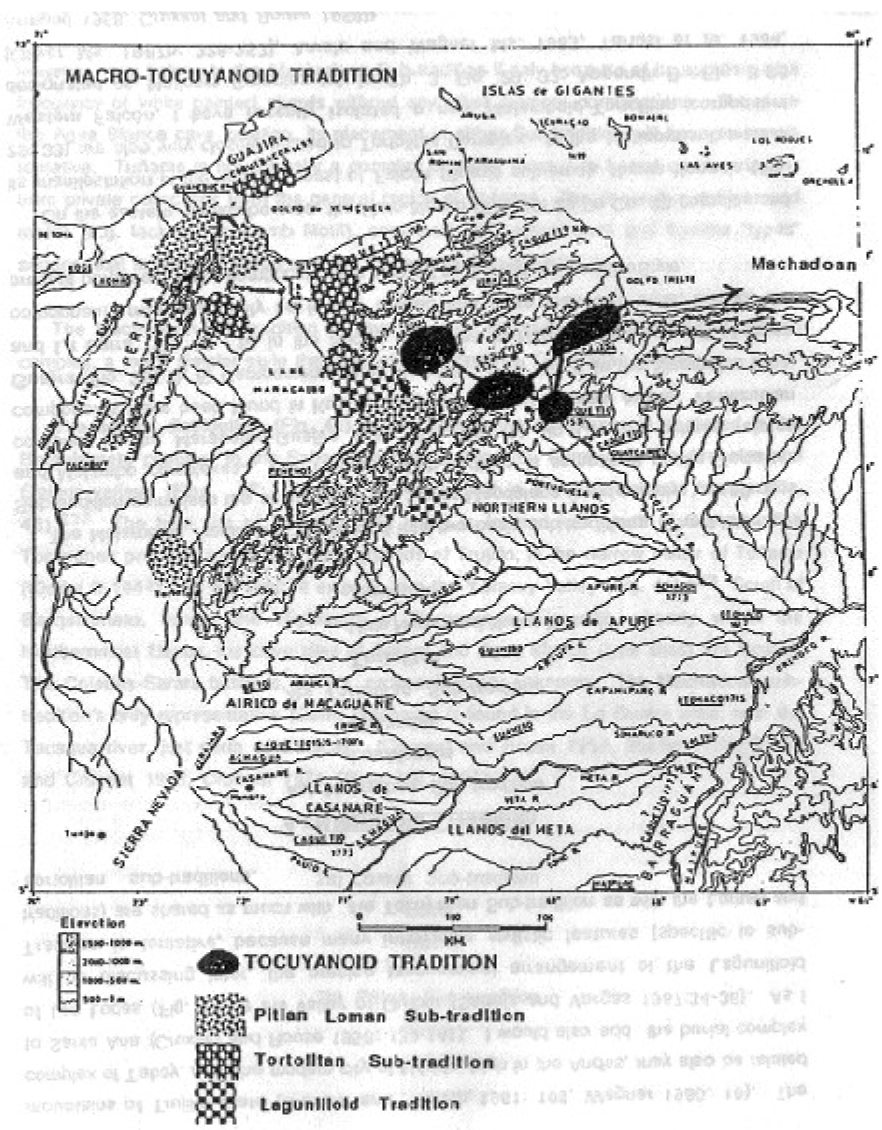


Figure 22. The Spatial Distribution of Selected Macro-Tocuyanoid Sub-traditions in Northern Venezuela (after Oliver, 1989:328).

The Machadoan Sub-tradition is located north of Caracas, in the eastern coast of Venezuela (Oliver, 1989:333).
The Loman Sub-tradition is centered at the Ranchería river, and extends into the Upper Cesar river in Northeastern Colombia, between the Sierra Nevada de Santa and Sierra of Perija mountains. The Pitían Sub-tradition is located in the Sinamaica area, at the base of the Peninsula of Guajira. Also at the headwaters of the Zulia river, and Alto Grande in the middle El Parmar river. The Betijoquean Sub-tradition if found in the upper Basin of the Motatán river, and possibly extended into the Carora area and the Arenales Valley in the Barquisimeto plateau (*ibid*.).
The Lagunilloid Tradition is located in the eastern shores of Maracaibo, the highlands of Trujillo, and possibly extended in the Venezuelan Andes (*ibid.*).
The Malamban Sub-tradition is limited to the Lower Magdalena, but possibly extended into the coastal riverine valleys northwest of Sierra Nevada's mountain. The Tortolitan Sub-tradition has a wider distribution including the eastern coast of the Guajira, extending from Paraguaipoa south to Tulé (near the Cachirí river) all in northwestern Maracaibo, while Tortolitan complexes have also been found in eastern Maracaibo, and in the Maticora and Borojo rivers (*ibid*.).

All Macro-Tocuyanoid complexes, except the Malamban Sub-tradition, have the same kind of painting, of which the most characteristic are black-on-white, black and red-on-white, black and red-on-plain (buff/natural), red-on-white, and red-on-plain. The three overall slip colours frequently described for the Macro-Tocuyanoid complexes are white, red, and black. The use of polychrome painting is one of the most distinctive attributes associated with Macro-Tocuyanoid complexes, except the Malamboid Sub-tradition (Oliver, 1989:334).
Plastic decoration is also a widely used decorative technique, but is never combined with paint. Only in the Malamban Sub-tradition the painting is absent, and consequently the dichotomy between incision and painting is not present. The incised designs are never combined with painted designs in the same vessel or fragment thereof, but when plastic decoration is used in combination with paint, it consists of appliqué, limited modelling (headlugs), and geometric lugs or nubbins of different sorts. The latter technique is also found in combination with incised designs, and in both cases the plastic techniques of application, affixation, and limited modelling, are subordinate to either painted or incised designs (Oliver, 1989:343-344).
The rim/vessel forms are divided into two basic general shape categories, firstly the globular *ollas* (necked or neckless), which are further distinguished by general classes of rim/neck forms, and secondly the broad class of restricted/unrestricted bowls, which in their turn are further distinguished by general classes of rim forms. Furthermore there are necked jars/bottles, budares, and other less widespread forms (Oliver, 1989:352-353). The Macro-Tocuyanoid complexes show a wide range of vessel supports and bases, annular

bases being common to all the complexes (concave, convex, thick short, 'S' profiled and outsloped) (Oliver, 1989:357).

3.8.2.2 Macro-Tocuyanoid Expansion

As in the Macro Tocuyanoid Tradition polychrome painting was predominantly and consequently a diagnostic feature, we must trace the origin of this kind of painting to understand the origin and spread of this Macro-Tradition. The earliest polychrome painting in the New World has been found in the Central Amazon at about 4000 B.C., but this date is still a point of debate (Brochado, 1984:316 in Haviser, 1991:63; Oliver, 1989:410). At the Orinoco river to the junction of the Orinoco and Apure rivers, polychrome painting has been found dated at about 3600/3700 B.C. (Zucchi & Denevan, 1979 in Haviser, 1991:63; Oliver, 1989:410). In the basin of the Middle Orinoco, the staple crop was manioc between ca. 2000 - 400 B.C., and with the introduction of maize, which was becoming a staple food along the Orinoco River at Parmana between 800 B.C and 400 A.D., the population rapidly increased from ca. 400 B.C. to 1500 A.D. (Roosevelt, 1980:195). While the local population grew, new migrations of peoples were coming down the Orinoco (Lathrap & Oliver, 1987), and some polychrome painters from the Orinoco/Apure junction expanded up the Apure and Portuguesa/Cojedes rivers, from the Llanos to the Andes (Haviser, 1991:63) (*fig. 23*). As the early Polychrome Tradition was spreading through the Llanos, it began to diverge into several branches, of which the Osoid and Macro-Tocuyanoid were two major polychrome traditions (Oliver, 1989:410). At Cano del Oso (100 - 600 A.D.), the earliest distinctive northward expansion ceramic style is called the Osoid Tradition (*fig. 23*), having polychrome painting and maize cultivation (Cruxent & Rouse 1958-59; Rouse & Allaire, 1978:446). The ancestral Osoid migrated up the Apure, and eventually colonized the Llanos of Barinas, and the savannas of the left tributaries of the Middle Apure (Oliver, 1989:410). The Tocuyanoid Tradition follows the Osoid Tradition, and while early theories suggested an origin from the coast in Colombia (Cruxent & Rouse, 1958-59; Rouse & Allaire, 1978 in Haviser, 1991:63), recent investigations indicate that the Tocuyanoid Tradition is more likely to be derived from the upper Portuguesa/Cojedes and Venezuelan Llanos directly (ca 2500 to 2000 B.C.), and further to the Middle Orinoco (Oliver, 1989: 414; Wagner, 1988 in Haviser, 1991:63). The Tocuyanoid Tradition spread from the upper Portuguesa/Cojedes possibly via the Carache river west towards the Maracaibo lake, and northeast towards the Venezuelan coast via the Tocuyo, Aroa or Yaracuy rivers (Oliver, 1989:412) (*fig. 23*). The Tocuyanoid people spread to the west to Sarare at about 100 B.C., and to the Maracaibo area at about 300 A.D. (Wagner, 1988:84 in Haviser, 1991:63). To the north the Tocuyanoid Tradition spread to the Venezuelan coast at the Cerro Machado site, La Guaira, by 20 A.D., and to Puerto Cabello at about 300 A.D. (Rouse & Allaire, 1978:456). Once the Tocuyanoid groups reached the Caribbean coast at the area of the Yaracuy river mouth, they only spread westward (Oliver, 1989:387). In this region, the Ocumaroid Series then appear from ca. 300 to 900 A.D., although these dates are unsure (Cruxent & Rouse, 1958-59). This localized ceramic series is divided into two phases, the Ocumare site representing the earlier phase,

and the Aroa site representing the later phase (Oliver, 1989), but more research has to be done to understand it's relation with other series in the region. It is interseting to point out that Oliver (1989:435) suggested that Meso-Indian fisher- hunter-gatherers who lived in coastal Falcón (possibly descendants of the Heleneal complex, or even Las Casitas of the Joboid tradition), probably survived well after the colonization of the later Dabajuran peoples, and could have been responsible for the failure of the colonization of the coast of Falcón by the Macro-Tocuyanoid people (e.g. Machadoans).

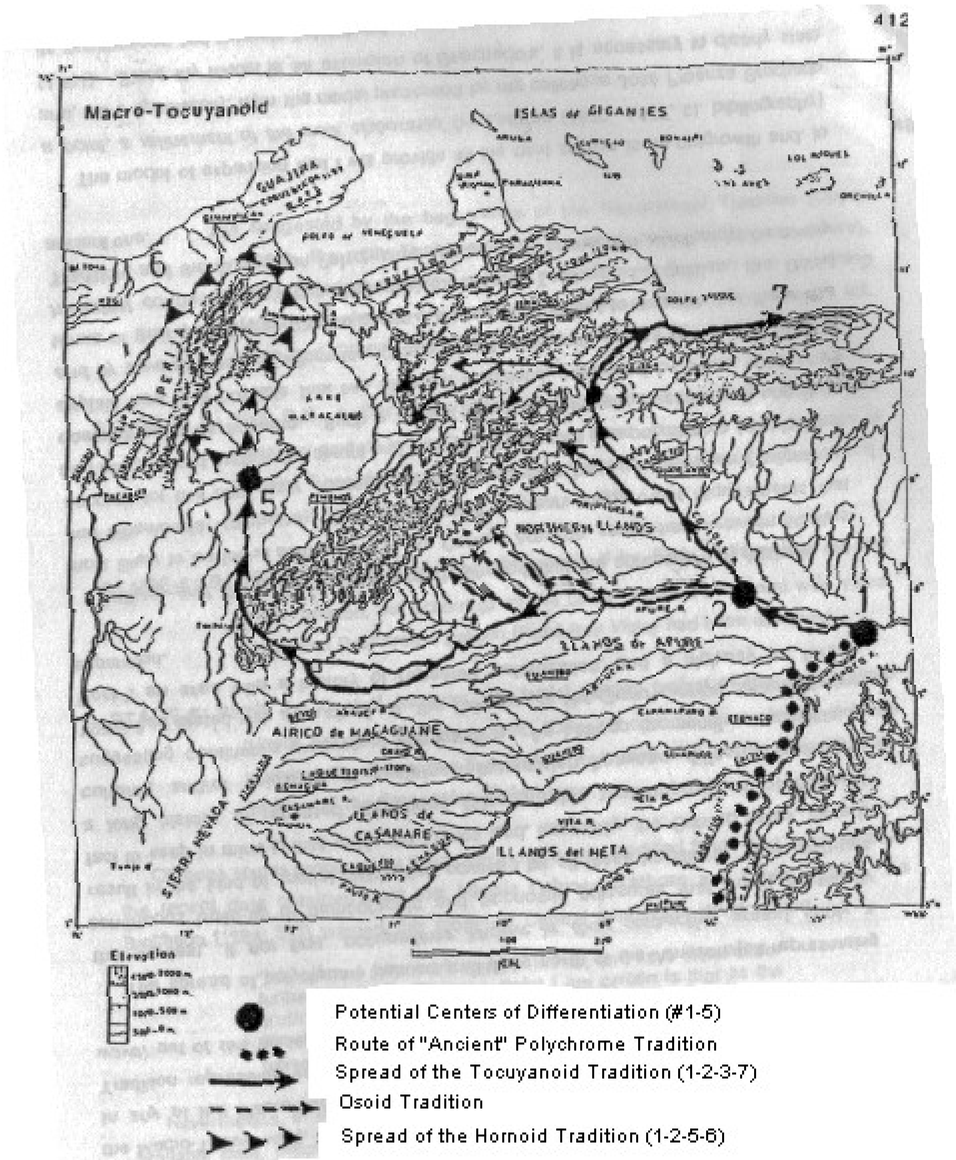


Figure 23. Hypothisized Expansion of the Macro-Tocuyanoid Tradition (after Oliver, 1989:412).

3.8.3 Macro-Dabajuroid Tradition

<u>3.8.3.1 Introduction</u>

The first person to have reported on Dabajuroid pottery was Van Koolwijk, and dates from 1878 on his work in Curaçao (Oliver, 1989:2). Osgood and Howard (1943) were the first to attempt to provide a chronological framework for what would become the Dabajuro style. They recognized the 'Northwestern phase', which was the first attempt at classification for the Dabajuroid Tradition.

Cruxent and Rouse suggested that the Dabajuroid series appeared to conform to a horizon, whose origin was postulated to be in the Coro area, but based on the basic vessel set and emphasis on black on white paint, its probable ancestral background emerged out of the Tocuyanoid series centered in the Barquisimeto-Yaracuy valleys (Cruxent & Rouse, 1958-59, (1):28-29, 257), while the Tierroid series also emerged from a Tocuyanoid background (Cruxent & Rouse, 1958-59, (1): 35). The distinctive geometric linear painted style was seen as the result of diffusion from the Colombian Second Painted Horizon, particularly the Portacelli complex.

The Dabajuro style encompassed part of the Maracaibo Basin and all of the state of Falcón, while all styles related to Dabajuro were collectively designated as Dabajuroid series. From the core area of Falcón, the Dabajuroid series spread to the east as far as Cumaná, and northward colonizing the islands of Aruba, Bonaire, Curaçao and Margarita. All styles, other than the Dabajuro style of the Dabajuroid series, were simpler in shape and decoration, which led them to think that Dabajuro was the center of development (Cruxent & Rouse, 1958-59, (1):73).

In 1963 they modified their interpretations; the earliest Dabajuroid complex was to be found in the Guasare river, at the Rancho Peludo site, and was considered being ancestral to the Dabajuro style. The site was dated at 2000 B.C. (Rouse & Cruxent, 1963b), and its subsequent development, the Guasare style, was suspected to begin some time after 445 B.C. Now their new hypothesis was as follows: the Dabajuroid series appeared as a local development in the Maracaibo Basin (Guasare river), then the horizon expanded into the coast of Falcón (Puerto Cabello, Barcelona, and Cumana areas, and into the islands in the Porlamar area) sometime after Guasare had developed, and southward through the Maracaibo Lake into the San Cristobal area of the Andes (Rouse & Cruxent, 1963a:61).

They considered the Dabajuroid series the largest in terms of time and space as the result of migration, rather than simple diffusion, and along with the Dabajuroid expansion, maize was introduced in Eastern Venezuela, where manioc was the staple crop (Rouse & Cruxent, 1963a:67).

The development from Rancho Peludo to the Guasare style was considered a local one, and the change into the more complex and elaborate Dabajuro style may had been caused by diffusion. Certain traits were derivable from the Tocuyanoid series, but particularly the painted designs, related the Dabajuroid series on the one hand to the Tierroid series of Western Venezuela and to the Ocumaroid series of Central Venezuela, and on the other hand to the Second Painted Horizon (Portacelli) of Northwestern Colombia (less closely to

the Chibcha pottery of highland Colombia), and Panama's Late Coclé or Herrera Period styles (Rouse & Cruxent, 1963a:66). While they modified their model of the origin of the Dabajuroid series and its crystallization during the later Neo-Indian Period IV, their position towards the Tierroid series remained unchanged (Rouse & Cruxent, 1963a:71-75).

In the early eighties, a new set of charcoal datings refuted the origin of the Dabajuro style out of Rancho Peludo complex predating 2000 B.C.; the dates were not as early as thought before, and the Rancho Peludo complex could also not have been the ancestral complex of the Dabajuro style and Dabajuroid series (Oliver, 1989:12, 428-429). Reason why Oliver did an extensive research in the eighties on these series, excavating and reinterpreting already excavated and published material, which resulted in new insights and a rearrangement of the series in Northwestern Venezuela (Oliver, 1989).

3.8.3.2 Hierarchical Classification

The Macro-Dabajuroid Tradition is comprised of the Dabajuroid and Tierroid traditions (*fig. 21*). As mentioned above, Cruxent and Rouse found similarities between the Tocuyanan and the Dabajuran/Tierran sub-traditions, but based on stylistic differences and their contrasting geographical distribution, they separated them into two distinctive series. Oliver (1989) obtained new data from Falcón and reinterpreted all of their data, and included recent investigations, resulting in the following archaeological units:

Dabajuroid Tradition

1a. Dabajuran
1b. Bachaqueroan
1c. Campoman
1d. Capachoan

Each sub-tradition comprises of the following complexes:

1a. **Dabajuran Sub-tradition**

- Túcua (800-1100/1200 A.D.)
- Urumaco (1100/1200-1400/1450 A.D.)
- Los Médanos (1350-1600/1650 A.D.)

1b. **Bachaqueroan Sub-tradition**

- Bachaquero (1300-1600 A.D)
- Las Minas (ca. 1300-1500 A.D.)
- Supidebo/Antunez (1300-1450 A.D.)

1c. **<u>Campoman Sub-tradition</u>**

- Guaraguao (ca. 1000-1500 A.D.)
- Punta Arenas (ca. 1000-1500 A.D.)
- Playa Guacuco (ca. 1000-1500 A.D.)
- Campoma (1100-1300 A.D.)

1d. **<u>Capachoan Sub-tradition</u>**

- Capacho (ca. 1000-1250/1300 A.D.)
- La Mulera (1250/1300-1500 A.D.)

2. **<u>Tierroid Tradition</u>**

2a. Tierran

2b. Mirindayan

Each sub-tradition comprises of the following complexes:

2a. **<u>Tierran Sub-tradtion</u>**

- Tierra de Los Indios (300-900 A.D. and ca. 1000 A.D. to Post-Contact)
- San Pablo (ca. 1000 A.D. to Post-Contact)

2b. **<u>Mirindayan Sub-tradition</u>**

- Mirinday (1100-1550 A.D.)
- Chipepe? (ca. 1000-1500 A.D.)

The Dabajuroid and Tierroid Traditions are characterized by a predominantly rectilinear polychrome and bychrome painted style, which sharply contrasts with the preceding Macro Tocuyanoid Tradition.

The Macro Dabajuroid Tradition, and specially the Dabajuran and Tierran Sub-traditions, is characterized by a sharp dichotomy of the ceramics into two very different kinds of wares; one which is crudely made and whose shapes are functionally related to cooking and storage, and the other is a much better and finer ware, and is functionally associated with food-serving and storage (mostly liquids, and in some Sub-traditions to store the bone bundles of the deceased) (Oliver, 1989:422).

The shape, function, and ware dichotomy becomes less clearly established as one proceeds from the two core areas (Dabajuran and Tierran) to their cognate Sub-traditions, whose styles are generally simpler.

The fine ware is almost always invariably associated with bichrome and polychrome paint, while the cruder culinary wares are sparsely decorated, and almost always the technique of appliqué is used (fillets, nubbins,

biomorphic and/or lugs). Painted designs can be combined with appliqué fillets, nubbins etc., but painting is mostly confined to the finer, better made wares (*ibid*.).

The Macro Tocuyanoid made very little distinction between categories of shape destined for decoration, finding ollas and other seemingly culinary vessels lavishly painted and decorated, while the Macro-Dabajuroid Tradition made this distinction sharply clear. Another important difference is the near absence of emphasis of incised designs; incision in the Dabajuran and Bachaqueroan Sub-traditions are almost always an auxiliary technique to the slightly more elaborate appliqué designs (*ibid*.).

3.8.3.3 Spatial Distribution

The Macro-Dabajuroid Tradition has a widespread geographical distribution (*fig*. *24*); the Dabajuroid Tradition extends throughout most of coastal Venezuela, while the Dabajuran Sub-tradition has its core area in the entire coast of Falcón, including the Peninsula of Paraguaná, and the islands of Aruba, Bonaire and Curaçao. The archaeological boundaries of the Bachaqueroan, Dabajuran and Tierran Sub-traditions correlate well with the ethno-historical Coastal and Barquisimeto-Yaracuy Caquetío polities, but the Mirindayan Sub-tradition (Trujillo's highlands) don't correlate to the Caquetío, or any Arawakan- speaking groups (Oliver, 1989:424).

The Bachaqueroan Sub-tradition is a late, outlying, frontier expansion Dabajuran Sub-tradition, from which it diverged directly. Bachaqueroan components are found west of the Falcón State and in the Maracaibo Basin. Bachaquero is located near Lagunillas, and Las Minas is located near Tortolitas in the Eastern Maracaibo area (in the Carachí river area). In the western part of Falcón (Borojó sub-area) the assemblages of Supidebo and Quebrada de Antunez are located (Oliver, 1989:427).
The Campoman Sub-tradition is located in the opposite end of the Venezuelan coast, and Campoma is the most elaborate of the complexes. Punta Arenas is located near Manicuare in the Cumaná area, Guaraguao is located to the northeast of Puerto de La Cruz in the Barcelona area, and the Playa Guacuco complex is situated in the valley of Asunción in the Margarita island. The Campoman Sub-tradition is probably an earlier divergence from the Dabajuroid Tradition, and except Campoma, all other complexes/styles are a much simpler version of the Dabajuroid Tradition (Oliver, 1989:427-428).

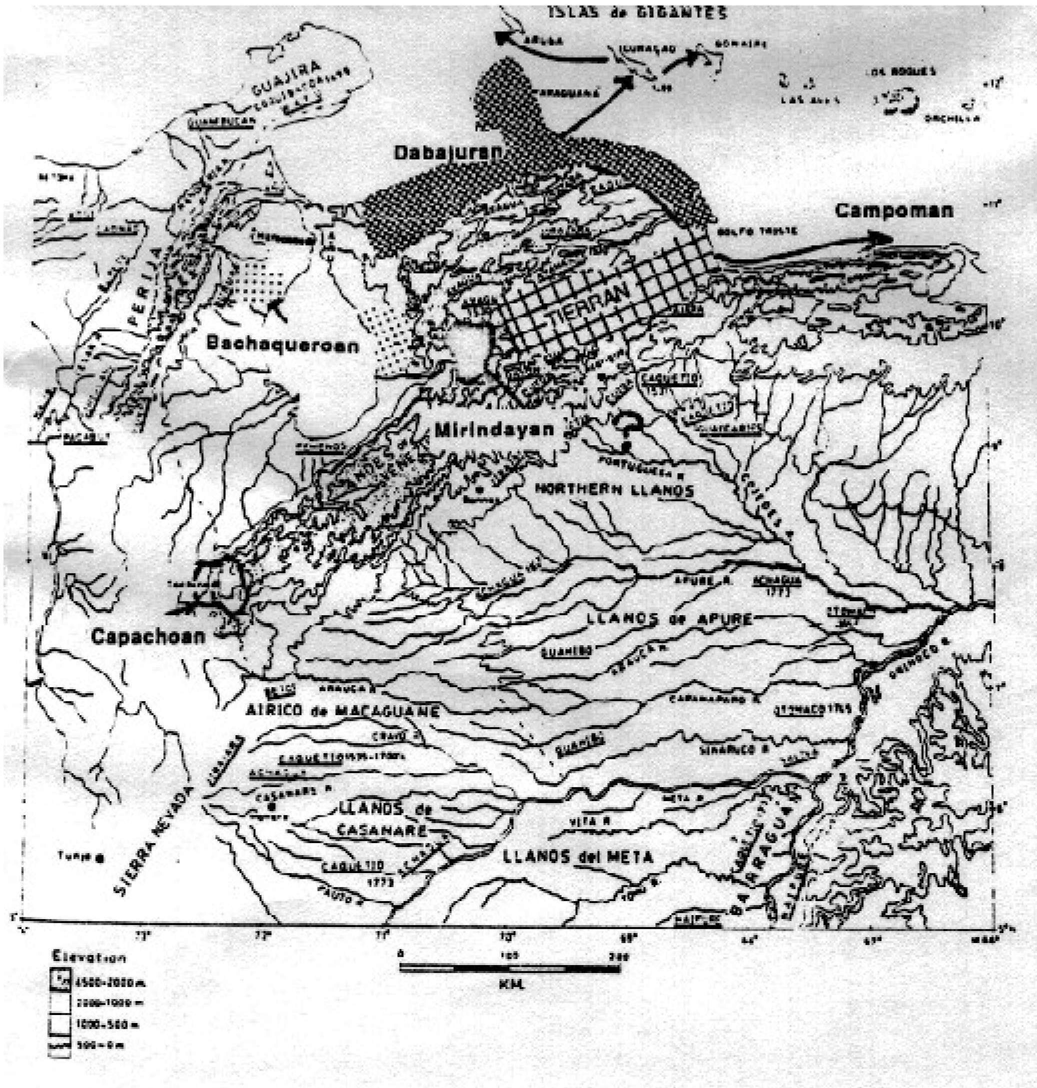


Figure 24. The Spatial Distribution of the Macro-Dabajuroid Tradition in Western Venezuela (after Oliver, 1989:420).

Dabajuran style pottery (Late Urumaco) has been found as trade artefacts in El Chuao, mixed with a local variant of the Valencioid series. A classic Dabajuroid sherd was found in the site of La Travesía de Mirinday (Trujillo), the core area of the Mirindayan Sub-tradition, which may indicate direct contacts between Mirindayan and Dabajuran peoples (Oliver, 1989:428).

Dabajuran style pottery has also been found at Nueva Cadiz, the first Spanish town in South America founded in 1516 and abandoned in ca. 1543, in the pearl-rich island of Cubagua (Cruxent & Rouse, 1958:59-60; Rouse & Allaire, 1978:458-459), and was the result of capturing Caquetío Indians as pearldivers for the Spaniards (Oliver, 1989:428).

The Capachoan is centered in the vicinity of San Cristóbal (Táchira Depression; elevations below 900 m, compared with the 3000 m of the Venezuelan Andes), and two complexes are identified, Capacho and La Mulera, forming a local stylistic continuum (*ibid*.).
The Rancho Peludo and Guasare complexes have not been included in the Dabajuroid Tradition, for different reasons as it is abundantly clear that these complexes aren not of the Dabajuro style or its antecedents (Oliver, 1989:428-429).

The Tierroid is concentrated in Western Venezuela and has a much more restricted spatial distribution than the Dabajuroid Tradition. It's predominantly found in the Barquisimeto-Quibor valleys, and extends east into the Yaracuy Valley. The Tierran pottery (also known as the Guadalupe phase) is best known from the Tierra de Los Indios, Los Tiestos, and the Guadalupe sites in the Valley of Quibor, while Tierran pottery has also been found in association with Spanish pottery (Oliver, 1989:429).
San Pablo, the other main Tierran complex, is found in the Yaracuy Valley, and many more new San Pablo complex sites have been found recently. This San Pablo style pottery has been found in the Spanish mission town of San Javier de Agua Culebra, and possibly contained trade sherds from the Urumaco complex (*ibid*.).
New data has segregated Tierra de Los Indios into two temporary different and culturally distinct Tierroid styles (Early and Late); Tierra de Los Indios has now been dated between 300 and 900 A.D., of which the first style gradually developed into the Guadalupe style (Oliver, 1995:16).
The Tierroid Sub-tradition did not expand much further beyond the Lower Yaracuy, only at the site Farriar (further along the Lower Yaracuy river) Tierran pottery was found, indicating a timid frontier expansion into a territory controlled by the Ocumaroid Tradition, while in the Capacho (Capachoan) complex Tierran trade sherds have been found (Oliver, 1989:430).
The Mirindayan Sub-tradition is found in the relatively lower highland elevations of Trujillo (Carache Valley), not far from the passage between the Barquisimeto plateau and the Maracaibo lowlands, and the Mirinday complex has been assigned to the Tierroid series (*ibid*.).

3.8.3.4 Dabajuran Sub-tradition

Cruxent and Rouse's Dabajuro style (1958-59, (1):71-74) has been redefined into three different complexes, namely: **Túcua**, **Early** and **Late Urumaco**, and **Los Médanos A** and **B** phases. The Early and Late Urumaco complexes encompass the original definition of Dabajuro style; the Urumaco complex is identical to the Dabajuro style minus the inclusion of the Maticora (Malamboid) stylistic features (Oliver, 1989:424).
The early Dabajuran period (850-1350 A.D.) was a time of rapid and continuous territorial expansion through coastal Falcón, a period when possibly hegemonic control over, or tacit alliances with, the resident Archaic fisherfolks in the mainland and off-shore islands was accomplished. During the Early Urumaco phase, the Dabajurans had already colonized the eastern and central coast of Falcón, including Aruba,

Bonaire, Curaçao, Isla del Tesoro and Ave Grande of the Las Aves Archipélago (Oliver, 1995:17). The Urumaco complex represents the climax of the Dabajuran complexes, and both phases represent a time period of rapid colonization (Oliver, 1989:472).

Oliver classified the Santa Cruz style of Aruba as Early Urumaco, and the Savaneta style corresponded exactly to his Late Urumaco complex, possibly in transition to the Los Médanos A phase (1989:424). Oliver even suggests that they could be the same styles as the mainland Urumaco and Los Médanos styles (Oliver, 1995:17).

Túcua and Early Urumaco

The Túcua complex is dated at 800 to 1100/1200 A.D., and the Early Urumaco phase is dated at ca. 1100/1200 to 1350 A.D., while the crucial site is Tucúa near Dabajuro (*fig. 25*) which consists of these two related complexes and of the Late Urumaco complex (Oliver, 1989:438, 450). The Túcua pottery is characterized by a calcareous matrix (grit) or fine sand temper, some sherds are grog tempered with a whitish kaolinite paste. Grog temper (chamote) is limited to small Fine Ware bowls, while the calcareous temper is almost invariably used in the Ordinary Ware cooking and/or storage vessels. Fine Wares are almost always decorated with paint, but polychrome painted sherds (on orange slip) tends to preserve better than those on white paint (white slip is rare in contrast with the Urumaco complex) (Oliver, 1989:438-439). The most diagnostic shape feature of Túcua is the absence of corrugation (multiple-coiling/coiled decoration). Another important feature of shape is the distribution of the thick clay griddles, called *budares* (used for manioc), in contrast to the thin slightly concave clay griddles, called *aripos* (used for maize). These thin aripos, which still survive today, are exclusively used to bake *arepas* (small maize tortillas), but this distinction has not been confirmed archaeologically yet (Cruxent, 1971:43; Oliver, 1989:441; Haviser, 1991:42).

The Fine Ware bowls show dramatic differences with the Early Urumaco, especially bowls with hollow rims, also the limited range of incurving rim bowls, while the highly distinctive biomorphic tetrapod drinking bowl is absent, just like the absence of small globular-spouted pots (Oliver, 1989:440-442) Annular bases are present in Túcua, while bulbar bases with perforated windows are absent, but appear in Early Urumaco. Shafted bases with a thin lenticular section are present in both complexes, and also *tuza* impressions (corn cob impressions) are present in both complexes (Oliver, 1989:442-443).

The painted decoration shows striking contrasts; Túcua is characterized by red-on-white, painted-on-buff (natural/plain), black and red-on-orange, and black and red-on-white. Only red-on-white disappears, but the frequency of the others decrease dramatically. The Early Urumaco phase is almost entirely based on

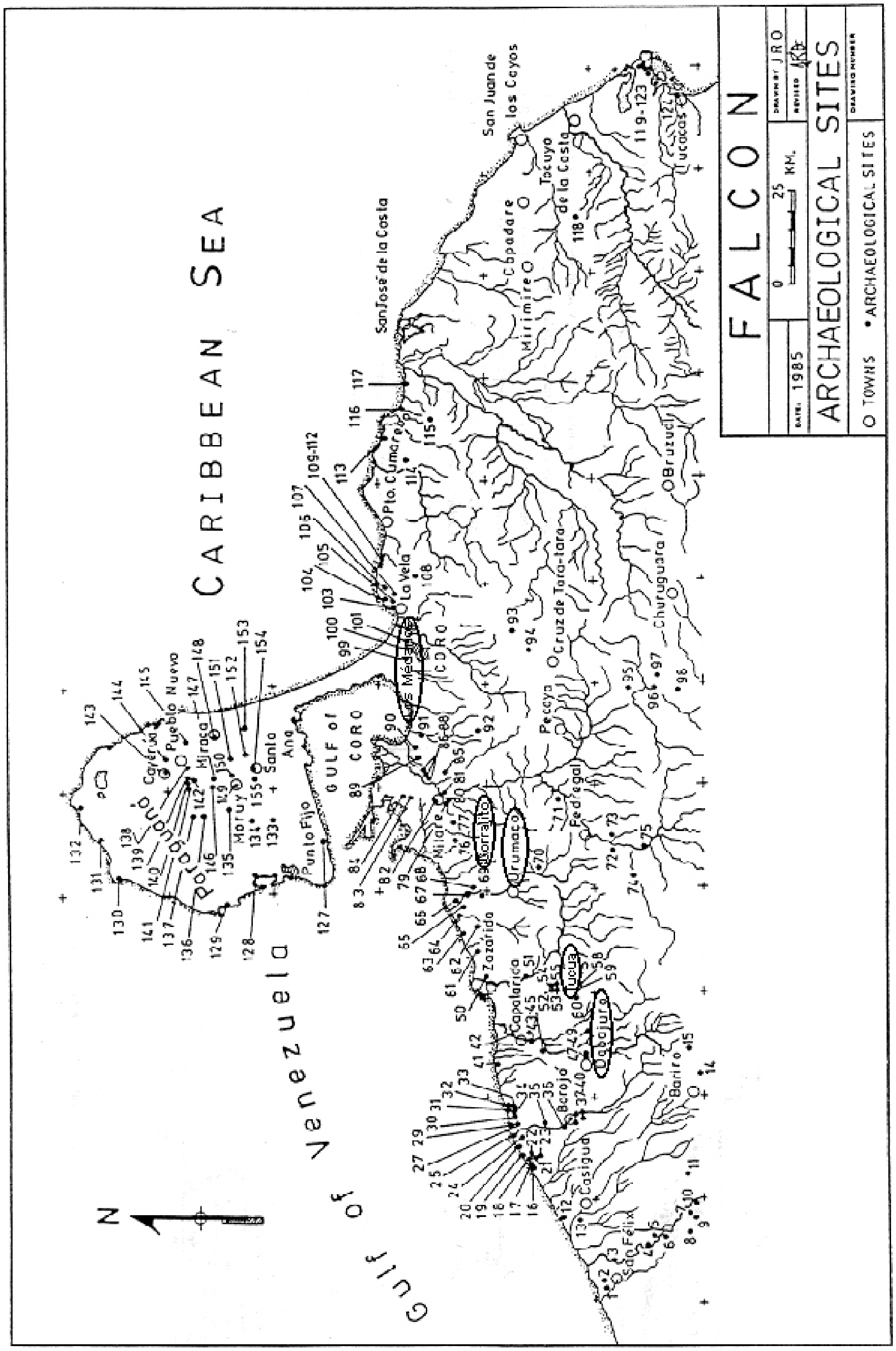


Figure 25. Map of the Falcón State, Western Venezuela showing the Location of Archaeological Sites surveyed by Oliver in 1981-83 (after Oliver, 1989:425).

black-on-white, while the earlier Túcua polychrome painting on orange slip degenerates to black or red (Oliver, 1989:443). The painted designs of the Túcua complex are of the Dabajuran style, but one very important design absent in the Túcua complex is a triangular (claviform) line embellishment motif, which is diagnostic of the Urumaco complex (innovation of the Early Urumaco phase). Plastic decoration has a very limited range of decorative modes and techniques (Túcua and Early Urumaco components at the Túcua site), in contrast to the Late Urumaco at Túcua and Corralito sites. Furthermore, incision, punctation and punctated cane impressions are absent, which are frequent (except incision) in the Urumaco and Los Médanos complexes (Oliver, 1989:443-444).

Late Urumaco

The site of Corralito (or El Mamón) is situated near the Urumaco river and is the type site (*fig. 25*). The Late Urumaco phase has been dated at ca. 1350 to 1450 A.D. Here also the two basic wares are Ordinary Ware and Fine Ware. The Ordinary Ware is also associated with various kinds of necked globular ollas, large platters, clay griddles etc. (culinary vessel forms), and is almost always associated with shell tempering, of which 75% is *guarataro* (burned fosil oyster or shell) temper (Oliver, 1989:447).

Fine Wares are associated with sand tempering, and include necked jars, cups, and a range of open or restricted bowls; also the better made and decorated burial vessels are included. Much more corrugated rims are present, with a wider variety, and there is a marked shift from insloping corrugated rims to markedly outsloping corrugated rims of globular ollas (Oliver, 1989:448). The aripos have entirely replaced the budares, while the hollow rims are very popular and certain open bowl and restricted bowl forms increase. The necked jar has a greater variety, and the biomorphic tetrapod drinking bowl is present, while there are shifts in the annular base forms. Very important is the increased popularity of the bulbar base with windows, while the shafted base sharply decreases. Leg-ring bases appear to be mostly confined to the Early Urumaco phase, while the maize impressed bases become very popular (Oliver, 1989:449-450).

Black-on-white is the dominant painting, but black-on-red and overall red slipped sherds significantly increase, while there’s a noticeable loss of polychrome painted pottery. Also shifts in painted designs are visible, of which very important to mention is the painted curvilinear band designs which are always painted black-on-white and are very frequent in the Early Urumaco phase, contrasts with the Late Urumaco phase where the band designs with triangular figures and various diamond like motifs are preferred (Oliver, 1989:450-451). A wide variety of plastic decoration is present, with the predominantly expressed forms being applied geometric nubbins and pegs of various kinds, and appliqué fillets with either painted lines or dots, or with punctations (Oliver, 1989:451).

Los Médanos

A series of sites in the bachran dune field just north of Coro is known as José Gregorio Hernández, and is the crucial site (*fig. 25*). Los Médanos A phase has been dated at 1400 to 1450 A.D., and Los Médanos B phase has been dated at 1450 to 1560 A.D. (possibly 1600/1650 A.D.) The pottery is also divided into Ordinary Ware and Fine Ware, guarataro and calcite being the diagnostic temper modes for the Ordinary Ware, and sand being diagnostic for the Fine Ware. The Fine Ware can be further divided into a better fired, even finer ware, with an excellent surface finish associated to red or black on red painted bowls. There is a marked decline of black-on-white, while black-on-red dramatically increases over time, and polychrome painting has completely disappeared, but there is still a high frequency of corrugated rims present (Oliver, 1989:457). Rim forms and painted designs associated with black-on-white consequently disappear, but a black-on-red avemorphic (zoomorphic) motif begins to appear, which has not been found anywhere near Coro, except in the Ranchería Valley's Portacelli complex (*see below*). Black-on-white painted bowls are gradually replaced by the fine black-on-red bowls, until only the black-on-white necked jar remains. A red slipped cup with an annular base, and a red slipped open bowl with a double rim or split rim appear (Oliver, 1989:470). The black-on-red designs are extremely limited to the black-on-white designs but are generally better executed. Los Médanos A is characterized by significant differences in serving vessel shapes, with the introduction of a novel much finer ware decorated with unknown motifs from the Túcua or Urumaco complexes, while Los Médanos B is a subsequent local development resulting in the abandonment of the Fine Ware bowl shapes with black-on-white paint, which are replaced by the even finer ware bowls painted black-on-red (Oliver, 1989:471).

Los Médanos and Late Urumaco share, with variations in frequency, the same Ordinary vessel set, but a radical change in the food-serving bowls took place (Oliver, 1989:472).

The Portacelli Connection

Los Médanos black-on-red painted bowls are a very well made, almost burnished ware, and they are very small (15-18cm orifice diameter). They are supported by simple annular bases, almost never showing perforation; shafted and bulbar bases, and other forms of leg support (e.g. tripods, leg-ring) are never associated with these bowls. The designs painted on these bowls are completely new, of which the most diagnostic is the zoomorphic motif, of what appears to be a bird (*fig. 26*). This design is only found in Portacelli (Ranchería Valley in Colombia/Guajira), while the bird found in Tierra de Los Indios is of a different style and painted on different vessel shapes (Oliver, 1989:473).

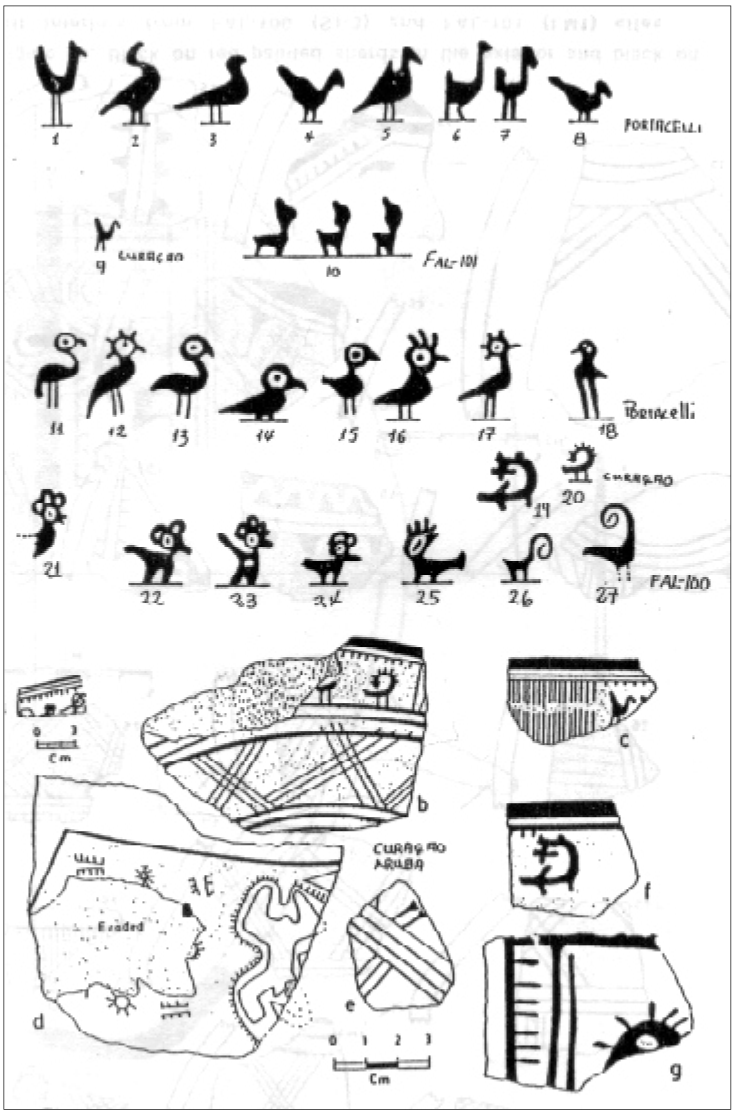


Figure 26. Zoomorphic Motifs of the José Gregorio and La Maternidad Sites, Aruba, Curaçao, and Portacelli (# 1-27), and Painted Pottery from Aruba and Curaçao (after Oliver, 1989:466).

In Portacelli there are two phases, which could best be distinguished by the sudden increase of corrugated rims (not uniquely a Dabajuran trait), and possibly more significantly, the shift from solid ('silhouette') avemorphic designs to 'hollow' avemorphic motifs where the 'head' and 'eye' elements are clearly depicted (*fig. 26*), which are features characterizing the Portacelli-2 phase (1050-1450 A.D., and possibly into historic times). The Portacelli bowls are identical in all its dimensions, except ware type, to those of Los Médanos, and since the earliest possible date of Médanos -A is about 1300 A.D., it's clear that the decorative motifs were derived from the Portacelli-2 complex (Oliver, 1989:473-474).

In the José Gregorio Hernández site of Los Médanos, all the avemorphic designs correspond to the hollow mode of the late Portacelli complex, which argues for a trait unit intrusion from Ranchería directly into Los

Médanos. The only silhouette (earlier) mode was found in the neighbouring site La Maternindad in the sand dunes of Coro, but unfortunately this site has been deeply disturbed by tourists and *huaqueros* (Oliver, 1989:474).

The hollow bird mode of Los Médanos complex had further developments which are absent in the Portacelli complex, namely the hollow mode changed to a spiral (*fig. 26*), being rare in Los Medanos A, predominant in Los Medanos B, and absent in Portacelli, and therefore could be considered a local (Coro area) innovation (*ibid*.). Oliver noticed that these avemorphic designs in black-on-red associated with small bowls, are not found anywhere between Ranchería and Coro, only one significant exception was found on the pottery of Curaçao; all three modes were present (fig. *26a*, *b* and *c*). Sherd **a** is however from Aruba (Santa Cruz), and is painted black-on-white (Van Heekeren, 1960: Plate 2 no. 4). In Aruba the hollow mode was certainly present, at the Savaneta several hollow motifs of different kinds were found (Bongers, 1963:4) (*fig. 27c*), and at Santa Cruz a fine small bowl with three of these hollow bird designs have been found, but curiously this bowl is painted black and white-on-red (*fig. 27a*). The birds furthermore have two beaks which are pointed upward, and the tail is split into four parts[22] (*fig. 27b*).

Oliver concluded that there must have been a direct contact between the Portacelli-2 and Los Médanos complexes, beginning some time after 1300 A.D. This contact must have involved a maritime route, from Ranchería to Curaçao, and with the new data, also Aruba, and from there to the José Gregorio Hernández (FAL-100) and La Maternidad (FAL-101) sites. The avemorphic, black-on-red painted design on bowls intruded the Los Médanos complex, and eventually these became the dominant serving shapes; the avemorphic motif evolved from a more realistic head-eye motif into a more abstract spiral-head motif. The appearance of corrugated rims in Portacelli could possibly be considered a result of the contacts with Los Médanos, but could also have been the result of diffusion from the Ranchoid Tradition (Oliver, 1989:475). Oliver thinks that the people from the José Gregorio Hernández site often traveled to Curaçao, and along other Dabajurans of Curaçao, they traveled to the coast of the lower Ranchería (Río de la Hacha) and traded with Portacelli groups. With the information I presented, it is clear that the Dabajurans of Aruba obviously also played an important role in this trade connection, and they were even in a more favorable geographic position than the Curaçaoan Dabajurans. However, the solid avemorphic designs found on Curaçao, and not yet on Aruba, point to an earlier, direct contact between Curaçao and Portacelli. The presence of the spiral avemorphic designs found on Curaçao, and not on Aruba, point to intensive contact between Curaçao and Los Médanos on the mainland, and consequently the hollow designs on Aruba would indicate “only” an intermediary position of Aruba in the trade connections between Los Médanos and Portacelli.The black-on-white variation of the hollow avemorphic motif at Santa Cruz (Early/Late Urumaco) could point to a weak relationship, where the new foodserving ettiquetes (innovation) were not totally accepted yet, or this could

[22] At Savaneta the same hollow avemorphic motif was present (Bongers, 1963:4).

mean that there was a beginning acceptence resulting in a local variation at Santa Cruz. The Savaneta pottery (Savaneta style) where this hollow mode was only found in

Figure 27. Hollow Avemorphic Motifs on Aruban Bowls (b. after Bongers, 1963:5). a. Santa Cruz, B-1 12: black and white-on-red, b. avemorphic motif on bowl B-1 12; c. Savaneta: black-on-red.

black-on-red, had stronger connections with the Portacelli and José Gregorio Hernández (Los Médanos) people, and is probably a Late Urumaco site in transition into Los Médanos (Oliver, 1989) with which I totally agree, but unfortunately it is a poorly controlled sample.

Ethno-historical documents show that there were Caquetío settlements in the Peninsula of Guajira, and there were undoubtedly strong kinship ties between the Caquetío of Curaçao and the Caquetío of Paraguaná

(Oliver, 1989:476), and also Aruba had these strong kinship ties with the Coastal Caquetío (*chapter 5*). It becomes obvious, based on ethno-historical evidence, how these copied trait unit intrusions found their way from the Ranchería Valley to Aruba and Curaçao, and from there to Coro (*ibid*.).

The change from serving bowls did not only involve a stylistic or fashion change, but all the symbols and etiquettes involved in food-serving must have changed accordingly, and consequently these would have altered a whole set of ideas regarding the social and religious presentation of foods and their consumption (*ibid*.).

3.8.3.5 Tierran Sub-tradition

The basic rim/vessel set of Tierra de Los Indios is entirely reproduced in the rims and vessel forms of the Túcua-Urumaco complexes, but give a sensation of having less range of variation of vessel forms. It lacks the hollow rim, complex shafted and bulbar bases, and bulbar necked ollas. It emphasizes hollow (tripod) legs, but the corrugated rims are significantly less varied, while painted designs are far more finely made. The color combinations are also found in Dabajuran pottery, but the emphases are different. Polychrome painting is much more frequently found, with the orangish coloured slip as background, with pigments combining red and black. The Tierran Ordinary Ware vessels have a better surface finish than the Dabajuran counterparts, but the culinary vessels are rarely decorated with fillets, nubbins, or other designs, while the Tierran Fine Wares have a much better finish than most of the best Fine Ware bowls in coastal Falcón (Oliver, 1989:477-480).

The Tierran complex of San Pablo is much simpler, coarser than Tierra de Los Indios, and rather than having fine, delicate hollow legs, which are characteristic of Tierra de Los Indios, it has large, tall legs whose style is closer to that described for La Betania legs in the Llanos de Barinas by Zucchi (1967), and possibly show a stylistic divergence, despite being members of different traditions (Oliver, 1989:480).

The San Pablo pottery is tempered with mica-schiss, which gives the surfaces of the pottery a unique "iridescent" look, and the painted designs are very much like the ones from Tierra de Los Indios. The Tierran Sub-tradition and the Dabajuran Sub-tradition have one last distinctive difference, being the extensive use of biomorphic designs in their bowls by the Tierran instead of the far more frequent multiple band designs found in Dabajuran (Urumaco) (Oliver, 1989:480-481).

Based on the sharing of a basic vessel set between the Dabajuran and Tierran Sub-traditions, Oliver (1989:481) suggested that they both emerged out of the same ancestral ceramic tradition. The differences between the Dabajuran and Tierran complexes is mostly showed in the specific ways certain designs are executed, and in the preference of colour combinations, as well as in the use of appliqué. According to Oliver (*ibid*.) this data supports a Macro-Dabajuroid level of relationship, and a subsequent differentiation into Tierroid-Tierran and Dabajuroid-Dabajuran branches.

Based on the fact that the Tierran and Dabajuran Sub-traditions were fully differentiated by the time they settled their respective areas, Oliver proposed that they had already been diverged and differentiated before settling in their respective areas (coastal Falcón; Barquisimeto-Yaracuy), and if so, they probably diverged out of a common (Tocuyanoid or a yet unidentified) tradition outside the Barquisimeto, Yaracuy, and Coastal areas; probably in the Llanos (*ibid*.).

However, as mentioned before, new data obtained by Arvelo in the Quibor Valley, State of Falcón, Tierra de Los Indios preceded the earliest known Dabajuro style by some 600 years, which is plenty of time to account for the noted stylistic divergence between the two (Oliver, 1995:16). Based on these data, Oliver doesn't agree anymore with the hypothesis that he split of a proto-Dabajuroid from Tierroid took place in the Quibor Valley, because the Tierroid styles of Quibor Valley appeared already fully developed in this region, reason why he now thinks that the process of divergence took place somewhere between the Turbio River, Upper Cojedes and Upper Yaracuy Rivers, sometime before 300 A.D. (*ibid*.).

3.8.3.6 The Macro-Dabajuroid Expansion

The ancestral Macro-Dabajuroid Tradition probably began to diverge in the Llanos, possibly at the Cojedes river (*fig*. *28,* no. 1), and is the first stage taking place before 850 A.D., maybe between 1 and 500 A.D. (Oliver, 1989:482). The Dabajuroid branch moved up the Cojedes (*fig. 28*, no. 1-2), through the Yaracuy (*fig. 28*, no. 3), while the Tierroid branch moved to the Barquisimeto plateau, and west into Quibor. Somewhere in the Lower Yaracuy the Dabajuroid branch of the Campoman expanded east along the central Venezuelan coast (*fig. 28*, no. 9) reaching Cumaná by at least 1100 A.D. The Capachoan Sub-tradition possibly expanded along the Portuguesa and followed a southward route along the Andean piedmont, up the Arauca tributaries into the Táchira Depression (Oliver, 1989:483) (*fig. 28*, D).

The Dabajuran branch continued their expansion and colonized eastern Falcon (*fig. 28*, no. 1-3, 5), arriving in the area of Dabajuro at about 800 A.D. (Túcua complex). By 1100 to 1200 A.D. the Dabjuran (Early Urumaco) colonized much of eastern Falcón, Coro, Paraguaná, and had settled along major coastal rivers in western Falcón between the Borojo and Mitare rivers. At this time the Dabajuran (Urumaco) learned maritime navigation, and colonized Aruba, Bonaire and Curacao (*fig. 28*, no. 6), and also the smaller islands of Isla del Tesoro and Ave Grande of the Las Aves Archipélago (Oliver, 1995:17). By at least 1300 A.D. the Dabajuran peoples had sailed as far as the coast of Guajira (*fig. 28*, no. 8), and contacted peoples of the Portacelli complex, an exchange which affected the local pottery of the Dabajuran peoples inhabiting the sand dune sites of Médanos de Coro, a local development which continued after Spanish contact until the middle of the sixteenth century (Oliver, 1989:483).

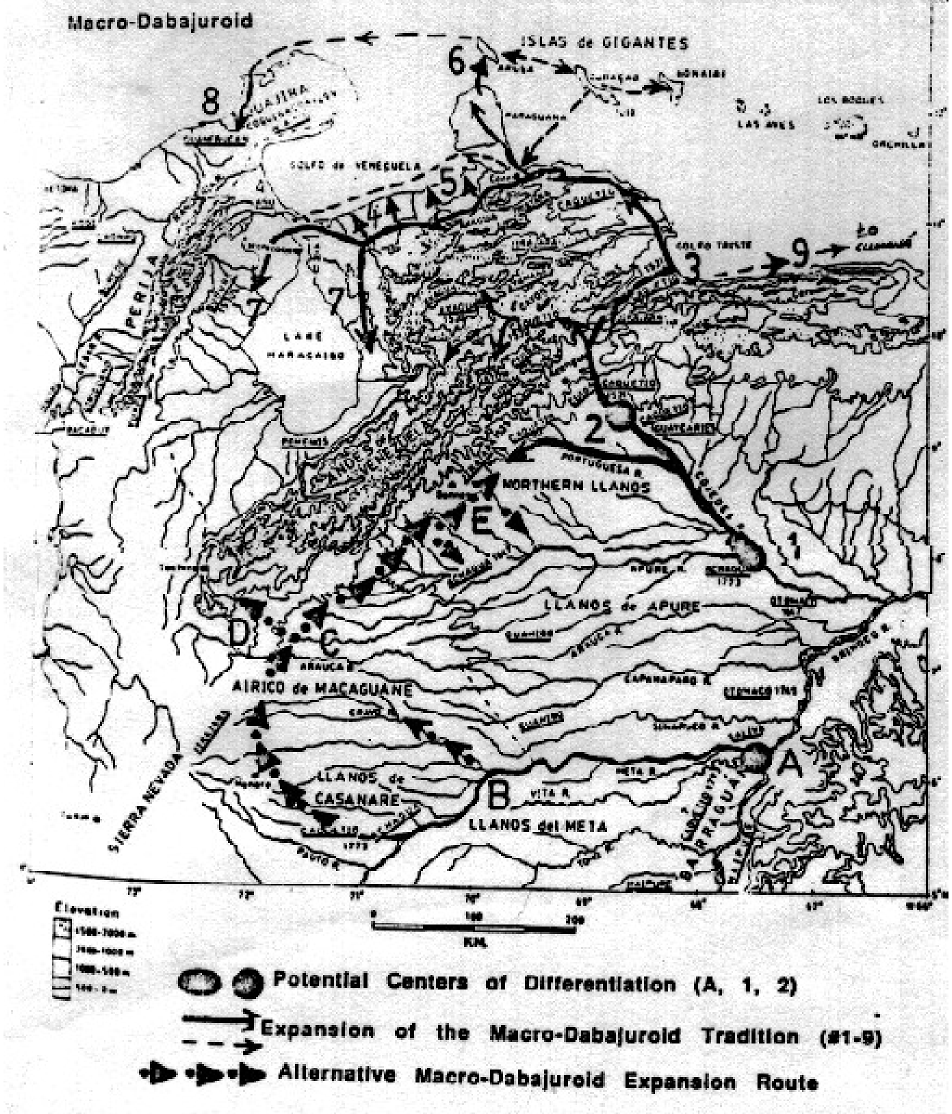


Figure 28. Hypothesized Expansion of the Macro-Dabajuroid Tradition (after Oliver, 1989:484).

At about the same timeframe, a late, simpler, Dabajuran development spread further west, beyond into the Maracaibo Basin, reaching the region sometime between 1350 and 1500 A.D. (*fig. 27*, no. 4-7). This later expansion evolved out of the Dabajuran complex of Late Urumaco, and had diverged enough to be considered a new Sub-tradition, namely the Bachaqueroan, which was disturbed by the Spanish conquest (*ibid*.).

It is interesting to note that the ethnohistorical ethno-political boundaries of the linguistic groups called the Caquetío fit well into this archaeological model, as well as the model of Arawakan linguistic expansion (Proto-Northern Maipuran; Caquetío) show a remarkable degree of correspondence with the model of Macro-Dabajuroid expansion (Oliver, 1989:485; see also *chapters 5* and *6*).

3.9 CHARACTERISTICS OF THE ARUBAN DABAJUROID SITES

3.9.1 The Sites

Some of the sites are more than ten hectares big, while others are only some square meters large. Almost always the top soil has been disturbed by erosion, ploughing or other activities till a depth of some 30-40cm (Ayubi *et al*., 1985:396). There is no stratigraphy visible in the sites, mostly due to severe erosion (and the insignificant thickness of shell concentrations), and in most cases the A-horizonts are totally gone. This is also noted on Curaçao and Bonaire, and the Peninsula of Paraguaná. On the other hand, in many places the soil has been ploughed, and consequently nothing is lying in its original place (Boerstra, 1982:19-20). For this reason, when most of the sites are excavated, the top layer/soil is taken away with a bob-cat or bull-dozer, until it reaches a depth of some 30-40 centimeters, where the Dabajuroid habitation layer (untouched soil) begin (Boerstra, 1976:125; 1982:21). This inhabited layer is often between 25-50cm thick, and has a yellow color, in contrast with the darker (grey) topsoil. The features (discolorations) are mostly grey, and the C-horizonts of these sites are often hard diorite. Most of the artefacts that are found are pottery, shell and stone artefacts (Boerstra, 1982:19; Sterks, 1982:12; Ayubi *et al*., 1985:397).

3.9.2 The Artefacts

3.9.2.1 Pottery

Of the pottery, more than 90% is undecorated utility ware; storage vessels, cooking pots, very large vessels used as urns, but also may have been used to store large quantities of liquids, and griddles (Ayubi *et al*., 1985:397; Versteeg, 1991c:14). The basic shapes are bowls, dishes and jars; while a wide variety of bases are to be found (Du Ry, 1960; Sterks, 1982). Mostly the vessels are broken, but urns, and vessels given as grave gifts, are sometimes in a complete state.

The pottery was made by the coiling technique, and the clay is tempered with crushed quartz particles (Ayubi *et al*., 1985:397; Versteeg, 1991c:14). Dahn (1970:9) says that she found some pottery at the Canashitu site showing paddle and anvil impressions, a technique which also occurs in the Dabajuroid Tradition. The decorated pottery is much thinner and of a fine quality, tempered with shell or chalk, while two main decorative techniques were used, namely painting and modelling (Versteeg, 1991c:14). The most common paint colours are brown, reddish brown, red and black. The modelling technique ranges from corrugated rims (extra appliqué rings around the rim of the vessel) to complicated, stylized animal heads (adornos), sometimes human heads (effigy vessels), and stylized complete animals (*ibid*.).

As mentioned before, also some stamps have been found, which were probably used for body painting (Boerstra, 1982; Sterks, 1982:10).

3.9.2.2 Tools and other Artefacts

Many of the tools found in these sites are made of quartzdiorite, basalt or sandstone (Ayubi *et al*., 1985:397; Versteeg & Ruiz, 1995:75). *Manos* and *metates* (maize) are regularly found, the same as small, pointed, flint chips. These chips have a length of 10-16 mm, not thicker than 5 mm, are more or less triangular, and probably were part of a cassave grater; a wooden board in which many flint chips were hammered in such a way, that each tip projected some 3 mm from the board (Versteeg, 1991c:18). According to Haviser (1987) these grating implements could also have been used to shread *maguey* (*cocuy*) for fibers and food. Boerstra interpreted these chips as possible borers; a drill constructed by shafting a flint point into a stick, and rotated either by hand or with a bowstring (Boerstra, 1974:15; Boerstra, 1982:36-38, 46). As no source for the flint chips is known on Aruba, they must have been imported, as raw material, as finished flint chips or as the complete grater.

The "heavy" tools were axes, hammers, chisels, knives, hearth- and grindstones, of which the latter two are made from sandstone, and the former from basalt, while also possible 'sling stones' have been found (Boerstra, 1974:16; 1982:31-43; Ayubi *et al*., 1985:397). Large diorite axes and hoes have been found, and probably they were hafted in wooden handles, as the shape of the axes suggest, and were used for woodworking (Versteeg, 1991c:18). Very small axes, and some very small objects with the shape of an axe made of a light-colored green stone, different from stone species used for axes, have also been found. According to Versteeg, they are to small to have served as axes, and probably had a ceremonial function (*ibid*.). A similar miniature shell axe was also found. Stone chisels, primarily used for wood-working, have been found, but they form a category larger than the miniature axes, but are too small for an axe (ibid.). According to Van Heekeren (1960:113) most of the stone tools are made of non-local igneous rock, of which completely finished ones, specimens in process of manufacture, some only chipped and others partially ground, were found which suggests that the stone material was imported as blanks, and the grinding occurred on the island by its inhabitants. He found these stone artefacts characteristic of the Falcón and Valencia areas (Kidder II, 1944:157; Cruxent & Rouse, 1958, (1):71). Also on Aruba three already mentioned stone statuettes have been found which were not made in Aruba, but are possibly falsifications. Bones were used to make pins and needles, while shell (*Strombus gigas L.*) was used to make axes or spoons (useful artefacts), or to make ceremonial objects like a unique rod ending in a stylized animal head from Santa Cruz. A perforated turtle bone has been found at Tanki Flip, of which its function is not known (Ruiz, 1995:20). A small flattened bone point was found in the lower part of the Santa Cruz site, which is the only example of this class of tool, and may be a relic of an older, non-ceramic culture of the Cubagua complex, like that found on Margarita island (Cruxent & Rouse, 1958, (1):240).

Also numerous beads in various stages of finishing (different sizes, with or without perforations) are found in archaeological sites and as strays finds in other locations on the island (Versteeg, 1991c:20). Very small beads, called *botons*, are often found in association with burials. The beads could also have functioned as jewelry, as necklaces (Boerstra, 1982:45; Ayubi *et al*., 1985:397). We know from the ethno-historical Caquetío that they used (necklace) beads as a kind of monetary system (see *chapter 5*). Shell beads, drilled

on one side with two holes converging into one hole on the opposite surface have frequently been found on the island, and are also reported from the Peninsula of Cabrera (Kidder II, 1944: 75).

It is interesting to note that Wagner noticed that in Campoma located in Eastern Venezuela north of the city of Cariaco, she found a very elaborate shell bead (boton) with an incised decoration similar to those found on Aruba, reason why she thinks that there was a cultural relationship with Aruba (Wagner, 1977:20-21). This could be true, as Oliver (1989) considers Campoma as a Dabajuroid site.

Of the diagnostic shell gouge of Curaçao and Bonaire, only a few have been found, and all are from Santa Cruz (Van Heekeren, 1960:112). The shell gouges could have been used for the shreading of the cocuy plant (Haviser, 1987:55). A peculiar group within the shell material are the numerous shell points and knobs of the Strombus gigas, of which the function is not known yet (Boerstra, 1982:49; Sterks, 1982:13).

Two small shell pendants were found which represent a human head and an animal head (Versteeg, 199c:20).

An interesting artefact noteworthy of mentioning, is an object which resembles a wide wine-glass on a stem, without foot. It has a black color, and is called *lignite* (low-grade, brownish-black coal), and must have been imported from the mainland (Boerstra, 1976:126; Boerstra, 1982:66 fig. 28, 77).

3.9.3 Human Burials

There are probably five ways of burying the dead of the Dabajuroid people of Aruba identified until now.

1. The individual is buried in a pit (the soil) with no grave gift (most often);
2. The individual is buried in a pit (the soil) with grave gifts;
3. The individual is buried in an urn; the first kind is the ‘primary urn burial’;
4. The individual is buried in an urn; the second kind and most common urn burial is the ‘secondary urn burial’;
5. The individual is buried in a cave; only one example of this kind of burial has been found.

The first four kinds of burials occurred in the village area (Boerstra, 1976:125-128; 1982:66-77; Versteeg, 1991b:12; 1991c:16). Sometimes the individual was buried in a double urn; in the primary urn burial this results in an egg-shaped structure, up to 120 cm high, and 70 cm in diameter; in the secondary urn burial a smaller urn was put upside down upon the larger one, with a maximum height of 60cm (Boerstra, 1976:126). The dead were buried in urns of different heights. The urns are never painted, but decoration is in the form of appliqué (modelling) or corrugated rims are present and have incurving, straight vertical or slightly outwardsloping rims (Du Ry, 1960:98). The burial urns only have bones inside, there are no grave gifts (Boerstra, 1976:125), however at Santa Cruz in 1992, a dish was found inside a burial urn. The urns are crudely made with rough walls with a thickness of 2 cm, coarse quartz temper, and were fired at a relatively low temperature, with a smoothed outside surface (Boerstra, 1976:127).

The fifth kind of burial could be distinguished as a burial outside the village in a cave (Budui), where some 50-60 botons, and only one sherd were found (Versteeg, 1990b:4-5; Versteeg, 1991c:16). The three individuals buried here have the physical characteristics of the Ceramic (Historical) Indians (Tacoma & Versteeg, 1990:3, 5). Based on the exceptional location, it is assumed that important persons were buried here (Versteeg, 1992:4).
No evidence of cremation has been found yet on Aruba (Du Ry, 1960:97; Boerstra, 1976:127). In all burials, except the third, the individual is buried in the 'fetus' position; the traditional flexed position, with arms and legs folded (Boerstra, 1976:125; 1982:74; Ayubi *et al*., 1985:396). Not only adults, but also children were buried in these different kinds of burials. According to Boerstra (1976:127; 1982:70) child burials have been found in urns only, although in the 1992 excavation at Santa Cruz the upper body of a child was found in a pit with no grave gifts. Strangely the legs of an adult were also buried in the same pit. In the same excavation a burrial pit with three heads were found, while in another burial the skeleton of a woman was found with the the skull missing.
A lot of the dead had a molar tooth in their knee cavity (Boerstra, 1976:125; Holleman, 1993:8). In almost half of the cases, the skeleton is incomplete; three kinds can be distinguished: 1) A grave pit has been dug into (seldom); 2) A small pit, clearly visible, containing only a few bones; and 3) A regular skeleton burial, but a part is missing, usually being the skull (Boerstra, 1976:125).

In the eastern Aruban Ceramic sites, the burials often occur in the refuse, while in western sites urn burials are often found (Boertsra, 1982). Among the grave gifts are dishes, manos and metates, shell beads and other items. The location of burials, and stray finds of burial urns and bones, show that there was no separate grave and/or urnfield, and there is no pattern to be seen yet in the distribution of the different types. The orientation of the different burials also don't show any pattern (Boerstra, 1976:125-126).

Urn burials (primary and secondary) are found all over South America (De Josseling de Jong, 1920), and also in Venezuela this was a widely practiced form of burying the dead (Gallagher, 1976:151; Haviser, 1987:60-61).
The different kinds of burials point to differences in social status within the community; there was certainly a social stratification (Boerstra, 1982:72-73; Ayubi *et al*., 1985:396). Elaborate and varied burial assemblages are thought to represent significant interpersonal differences in rank (Roosevelt, 1987:157). However, Gallagher (1976:146) states that 'alternative' burial practices could be variations not shared by any of the members of any one of the socially recognized categories, meaning that a case could be made for the notion that variations in burial practices of this magnitude logically imply the operations of social stratification, some kind of socially recognized categories. Linton's (1936) concept of 'cultural alternatives' refer to the fact that in every culture a considerable number of traits are shared by certain individuals, but which are not common to all the members of the society or even to all the members of any one of the

socially recognized categories. The cultural elements included in this class have a very wide range, and aside from the nature of the participation in them, all the alternatives have in common that they represent different reactions to the same situations or different techniques for achieving the same ends. The cultures of small societies who live under “primitive” conditions usually include only a moderate number of such ‘alternatives’, while in a culture such as our own they are very plentiful (Linton, 1936:273-274 in Gallagher, 1976:144-146). This directly shows that the Ceramic Period people of Aruba, who were not of a cultural level, including all other cultural aspects, to have achieved such meaningless plentiful numbers of ‘alternatives’.

3.9.4 House Structures

3.9.4.1 Aruban Dabajuroid Structures

The horse-shoe structures excavated by Boerstra (1982:23) at Santa Cruz, have postholes which are 50 cm separated from each other, the length axis is 5 to 8 meters, and the short axis is 3 to 5 meters long, while the ‘opening’ is south or southwest directed (*fig. 29*). The dead were buried in or next to their house (Ayubi *et al.*, 1985:397).

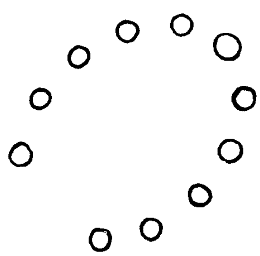


Figure 29. Horse-shoe Shaped Strucuture (after Boerstra, 1982:23).

In 1992 the unitdrawings of the 1971 excavated area of Santa Cruz by Boerstra were reinvestigated and two series of postholes, each forming half concentric circles, were discovered. They are an inner and an outer circle of a house with a diameter of ca. 11 m. Half the structure was excavated, and the circle could be part of a round or an oval house. On old unitdrawings small oval structures with a diameter of 3 to 4 meters were recognized, and could be interpreted as structures for inhabitation (Versteeg, 1992:4).

At Santa Cruz a house structure with a diameter of 8 meters, big enough for two nuclear families, was excavated in 1991, while in 1992 a much bigger oval shaped house structure was found which could have supported between 35-40 people, but no details of this structure are known yet (Holleman, 1993:7; Versteeg, 1994c). In the first structure two family groups were buried, each lying in half a circle in the corner of the house (Holleman, 1993:8). In total the structure had 21 posts, and many postholes, deep diorite-intrusive holes and less deep ones, were found within the circular structure which is interpreted as the outer circle of a house (*fig. 30*). A division wall divides the house in a north and south section, with in each division two large hearth locations (Versteeg & Ruiz, 1991:27-28; Versteeg, 1992:4; 1993c).

At Tanki Flip during the 1994 excavation, in an area of 2275 m² fifteen structures were recognized, of which 5 were identified as malocas (*fig. 31*). In these malocas probably more people than a nuclear family lived (Versteeg *et al., in prep*., 1997). Interestingly the dead at Tanki Flip were not burried in the houses or in the vecinity of the houses as would be expected (Versteeg, 1994a:17).

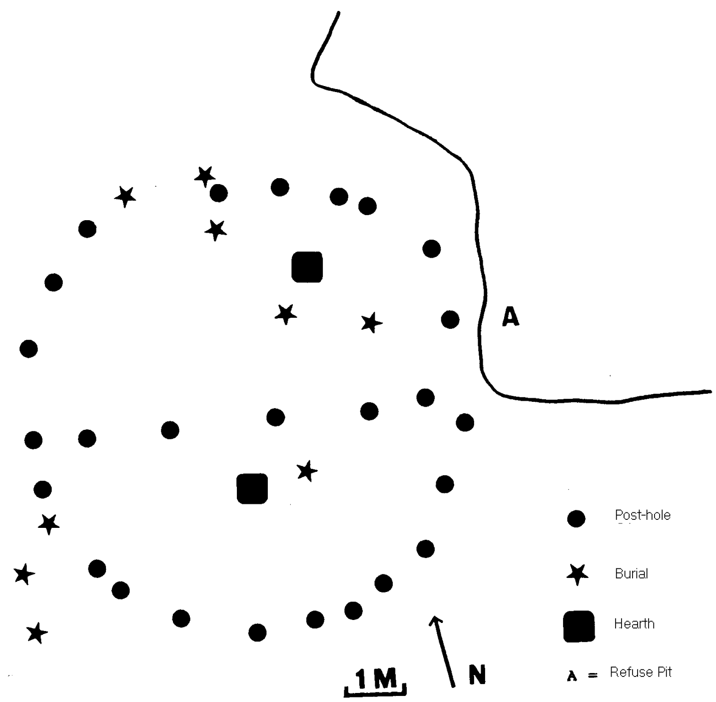


Figure 30. Santa Cruz House Structure (after Versteeg, 1992:4)

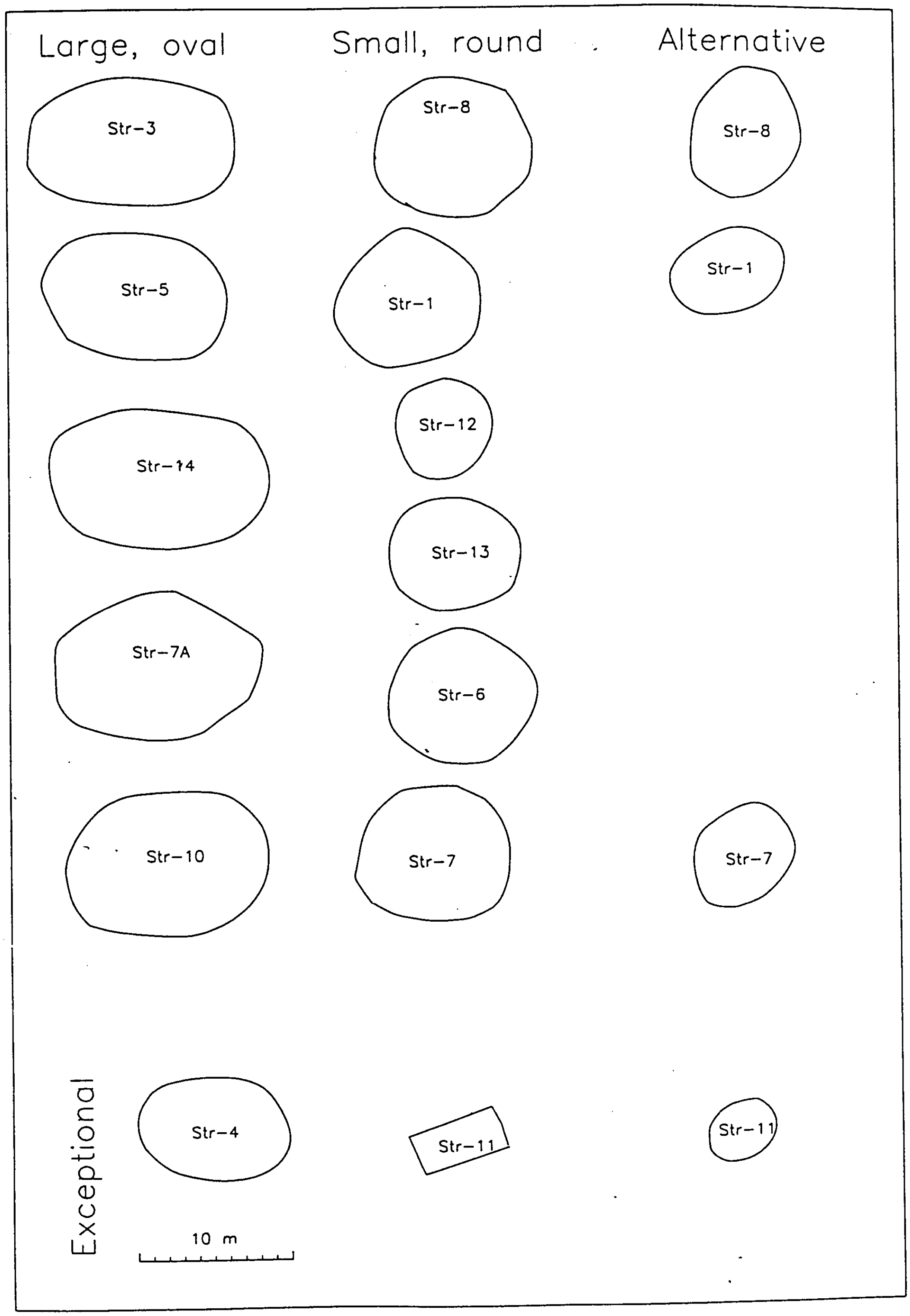


Figure 31. The Structures of the Tanki Flip Site (after Versteeg *et al., in prep.,* 1997). The five large, oval structures are malocas.

3.9.4.2 Other Dabajuroid Structures

Haviser (1987:66) found at the Savaan site in Curaçao a partial floor plan of a semi-circular hut structure in a 4 × 4 m excavation. It had a central pole, surrounded by seven smaller post-holes, which were situated at approximately 1.6 to 2.0 m from the central pole, and approximately 1.2 - 1.4 m apart (diameter ca. 4 m). Its total area and final configuration have not been determined. At the Wanapa site in Bonaire, Haviser (1991:148) identified a very small circular structure, with a diameter of 4 meters with an internal division wall (*fig. 32*), just like the one found at the Santa Cruz/Ceru Noka site.

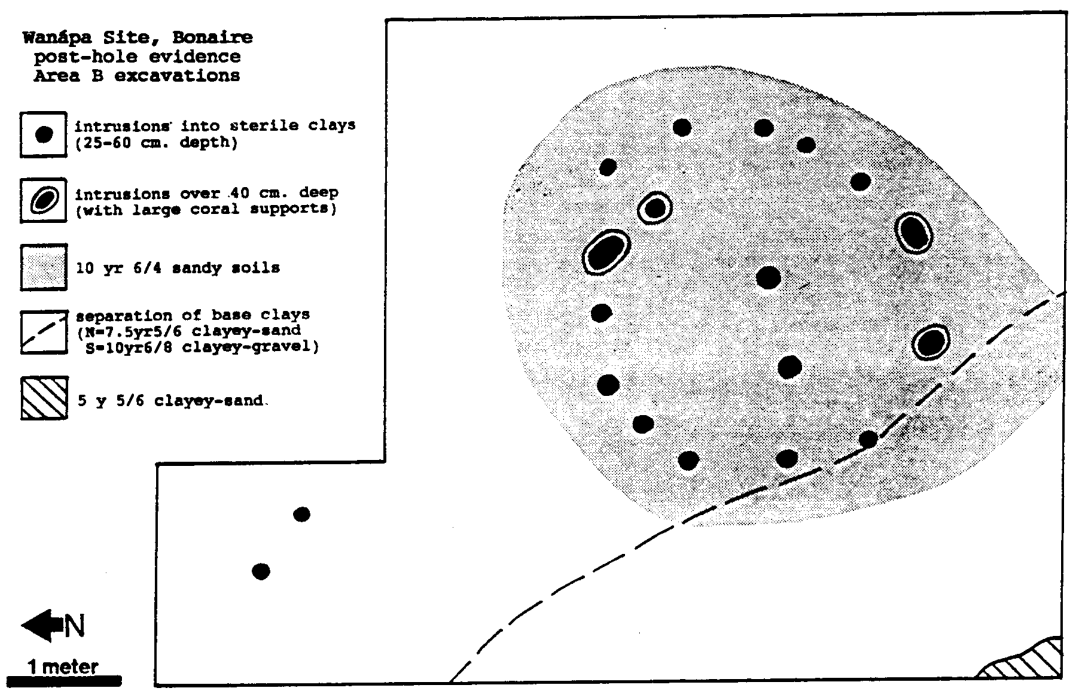


Figure 32. Structure at the Wanapa Site of Bonaire (after Haviser, 1991:152).

Oliver (1995:22-49) excavated an accidentally exposed house structure at Maticora[23] in Western Venezuela in 1981, which has an oval structure and measures 18 × 13 m (234 m²). It is interpreted as a longhouse, and is the largest such structure in Northern Venezuela. It has two large interior hearths, post-molds of different sizes, and two possible entryways.

Cruxent (1982) identified house structures on pylons during his excavations in Punta La Macolla in Paraguaná, a site associated with Late-Urumaco/Los Médanos style pottery, confirming Vespucci's

[23] Tortolitan Malamboid subseries of the Macro-Tocuyanoid, 500/600A.D., sharing selected ceramic traits with Bachaqueroan Dabajuroid ceramics, but historically not derived from the Dabajuroid series; however I find this house structure important to mention in this context.

description of dwellings on pylons in the Golfete de Coro; these were structures of the coastal fisherfolk (Oliver, 1989:491; 1995:19).

The function of these different structures is not clear yet, whether they were houses, or temporary settlements away from home, or structures for household activities. A village of a ranked or stratified society, like the Caquetío (Dabajuroid) would not have homogeneous domestic and associated structures with regard to size and shape, e.g. chiefly houses would be larger than that of commoners (Oliver, 1995:21). The small structures of Aruba, and the newly discovered larger structures of Santa Cruz and Tanki Flip, could point to this expected stratification of the Aruban Indians, as being part of (under socio-political control of) the mainland Dabajuroid/Caquetío chiefdom.

3.9.5 Subsistence

The Dabajuroid people of Aruba were intensive farmers of maize and manioc, and possibly cocuy and tobacco (Versteeg, 1991c:18). The manos and metates, which still serve today in Western Venezuela to gr ind maize, and the imprint of maize kernels in the broken edge of a pottery sherd state this cultivation of maize (Ayubi *et al*., 1985:397). The griddles (budares) and the cassave flint chips point to the cultivation of manioc. The griddles (aripos) were also used to bake maize cakes (Oliver, 1989:440-441). Probably manioc cultivation took place in cleared gardens (slash and burn) and in gardens placed on the edge of roois (floodplains/edge of lagoons), like Zucchi (1985:171) described from archaeological and ethnohistorical data from the Western Venezuelan Llanos (Haviser, 1991:44-45).
No archaeological information on the cultivation of cocuy and tobacco have been found yet on Aruba according to Versteeg (1991c:18). However, if Haviser's (1987:54-55; 1991:46) right and cocuy was cultivated (shell gouges and cassave flints), it could have served as a food source (amino acids, low in protein), and for fiber to produce rope, baskets, nets, hammocks and also as an intoxicating drink called *fique*.
The Ceramic Period inhabitants also ate turtles (and their eggs), iguanas, birds and most of all fish, as is demonstrated by the last finds of the Tanki Flip site (Ruiz, 1995:19). Proteins were also taken from testaceans and crustaceans (Holleman, 1993:7); edible shellfish and crab remains were found in the refuse heaps (Van Heekeren, 1960:109). Few bones of mammals were found in refuse middens, while no evidence of domestic animals have been found (Van Heekeren, 1960:110).

3.9.6 Social Organization

The Ceramic people were sedentary horti-culturalists, practicing a fishing/hunting-farming economy being more marine oriented than their mainland Dabajuroid cultural affiliates, who had a more inland culture. The mainland Dabajuroid (Caquetío) had a chiefdom level of cultural development, but despite being under their socio-political control, as will be shown later (*chapters 4* and *5*), the archaeological remains of Aruba

(Bonaire and Curaçao) show a lower level of cultural development. As Haviser (1987:145; 1991:148) pointed out, not much archaeological evidence is found for these islands being under mainland socio-political control, like large houses (Caquetío lived in large malocas, housing 40-50 people), mound constructions, monumental structures (temples) or large scale constructions, which doesn't mean that the islands were not under control of the mainland Caquetío/Dabajuroid. He states that the Dabajuroid people dominated the islands between 1000-1500 A.D. with their ceramic styles, trade connections and socio-political organization (Haviser, 1991:56-57). I think that the natural habitat of the islands, and factors like carrying capacity, didn't permit a cultural level of development of thousands of people, with subsequent more elaborate constructions and greater houses (long-houses), which however, now have been found at Santa Cruz and Tanki Flip. The mainland Coastal Caquetío lived in villages of 150-200 people dispersed over a wide area, so if we assume that Aruba had the same kind of settlements, and at some point in time the three villages were contemporaneously inhabited (1100/1200-1400 A.D.), that would count at most between 450-600 people living at the same time on the island. Boerstra (1982:26) thinks that the Aruban Ceramic Indians lived in extended families, and the recently discovered structures could point in that direction (Versteeg *et al., in prep*., 1997).

The chiefdom level is, unfortunately, archaeologically poorly understood and has to be investigated more thoroughly (Toledo & Molina, 1987:192-198; Curet, 1991:15-19). Some characteristics Toledo and Molina give are present in the Ceramic Period sites of the island, like 1) A homogeneous Ceramic (polychrome) style; 2) Differentiated burial practices; and 3) A differentiated technoeconomic base, a mixed strategy: agriculture and hunting/fishing activities, and small irrigation works. Sanoja Obediente and Vargas Arenas (1987:206) furthermore mention that in the chiefdom societies in Northwestern Venezuela there was a generalized cult of the 'Bat God' (bat cult), which was already noticed by Kidder II (1944). This cult would be expressed in the 'winged objects' (broad-winged ornaments) made of semi-precious stones, or of shell. Gigioli was the first to have associated these objects ('theory of funerary ornaments') with the Mayan myth of the Bat God in 1910, while different theories exist on this subject like that they are totemic symbols, musical instruments, or breast ornaments. The theory of Gigioli has the most followers, as some of these ornaments have been found associated with graves. No oral tradition has survived of this Bat God, and it is not even mentioned in the chroniclers (Kidder II, 1944:134; S. Pérez Soto de Atencio, 1971:170). There have been found broad-winged ornaments (stone/shell) on Aruba, and furthermore, there are bat adornos on rims, on vessels at the attachments between the (shafted) base and the vessel, and they also appear as spouts of the highly distinctive biomorphic tetrapod drinking bowl, which Oliver (1989:442) found in association with secondary burials. He thinks that these bowls could possibly be linked with the sixteenth century descriptions involving ritual drinking of *maçato* (maize chicha beer, generally drank at funeral ceremonies) at the death of a Caquetío *diao* (chief). The bat certainly seems to have had an important religious function in the society of the Ceramic people of Aruba. On the other hand not a very great population lived on the island in the different Ceramic villages, but it was without a doubt a stratified society.

Haviser (1987:78-79) thinks that the Curaçaoan Ceramic clan (Indios Curaçaos) attained a level of social organization somewhere between a sedentary horticultural and chiefdom level, with the possibility for diachronic changes from the former to the latter, and this may be applicable to Aruba. Such evolving organization systems would have a great deal of autonomy and complex relations on the local island level, and when necessary on the level of socio-political organization with the mainland (Haviser, 1991:69). The authorities for sedentary horticultural communities, are usually petty chieftains (*caciques*) as the official authority, and/or 'big-man', charismatic leaders whom others will follow (Haviser, 1987: 78-79; 1991:69). From this balancing requirement on the tribal infrastructure, a decentralized system of autonomous communities develops, rather than a pyramidal chiefdom. Such a chiefdom transcends segmentary distinctions by an administrative hierarchy with a paramount chief at the apex, and reduces the local community to the status of a political subdivision (Sahlins 1986:23 in Haviser, 1991:69). This system was described for the mainland Coastal Caquetío (Oliver, 1989:268-286), and was called the 'Theocratic Chiefdom' by Steward and Faron (1959:241-246). However, within the Caquetío chiefdom, Oliver identified different polities, with different social structures (see *chapter 5*). Furthermore, the Coastal Caquetío had different trading outposts or frontier settlements (Oliver, 1989:306) as which Aruba could have served. Contact between Caquetío settlements on the Peninsula of Goajira and the Caquetío of the Peninsula of Paraguaná and inland settlements went, amongst others, via Aruba.
A resemblance could be found with Rouse's (1986) Antillean Sub-Taino (Ceramic Age), like the Aruban Indians, and the Classic Taino (Formative Age), like the mainland Caquetío/Dabajuroid, where the former had independent agricultural villages, and the latter hierarchical chiefdoms (Haviser, 1987:141-142). Naturally, specialized investigations have to be done to get a better picture of these aspects of the Ceramic people of Aruba.

The social stratification was not only expressed in the Aruban culture of death (and possibly house structures), but also historical documents point to caciques living on the islands (see *chapters 4* and *5*). I even suspect that Santa Cruz functioned as a central village on Aruba with persons of highest ranks living there, Savaneta was more a coastal village, where contacts with areas in the region were held and strengthened, and Tanki Flip was inland village, more isolated from the rest, with the least influences from other areas. Probably different clans lived in these villages. They could have lived in a chiefdom way of life, which formed part of a tribal social formation, distinct from the village way of life, also part of the tribal social formation, where there was a sociopolitical integration of a number of village communities through a village which was dominant (Santa Cruz) in the tribal territory and where the chief resided (Sanoja Obediente & Vargas Arenas, 1987).
Of course, most of these speculations remain unanswered questions, until more specialized research concerning this difficult archaeological area has been done.

4. HISTORIC BACKGROUND

4.1 INTRODUCTION

In this chapter the Historic Period of Aruba is treated, naturally focused on the Amerindians, and to some extend on their interrelationship with other Amerindians, Europeans and Africans. The Historical Indian Period begins in 1499 with the arrival of the Spanish, and ends ca. 1862 when the last full-blooded Indian living on Aruba died. After this period a new era begins, which will only be treated if necessary for the aim of this chapter.

In the next chapter I'll focus on the different aspects of the mainland and island Caquetío Indians, which has to be treated in a separate chapter for the sake of surveyability.

4.2 ARUBA UNDER SPANISH GOVERNMENT (1502-1636)

4.2.1 1499-1533

There is no official record of the "discovery" of Aruba (Hartog, 1953:1), but it is generally accepted that the island was discovered the 26th of July 1499 by Alonso de Ojeda, who was accompanied by some famous *pilotos*, like Amerigo Vespucci, Juan de la Cosa and Bartolomé Roldán (De Palm, 1985:185). The islands of Aruba, Curaçao and Bonaire were first called *Las Islas Adyacentes a la Costa Firme*, but there is no official document which states that on that occasion Aruba was discovered (Hartog, 1953:26).

In 1500 cartographer Juan de la Cosa drew the first map of the New World, the Mapamundi, on which only two of the three Dutch Leeward Islands appear (*fig*. *33*). They were called *Islas de los gigantes* and the Indians were described as two and a half meters tall people (*fig. 34*).. There are some authors, like Haviser (1991) who say that the western island is Curaçao[24] (Isla de Brasil) and the eastern island is Bonaire (Isla de los Gigantes). Others think that Aruba is the westernmost island, and Curaçao the most easterly island (Oliver, 1989; Versteeg & Ruiz, 1991, 1995).

The natives, who were called the Caquetíos[25], were "the stature of giants in their size", a fact certainly not confirmed by later invaders, or physical anthropological research. The average stature of the Indians at the time of European Contact ranged between 1.55 m and 1.65 m, while the average stature of Spanish males

[24] Nearly half the trees on the islands were *Brazil wood* (dyewood), and much cotton was grown; letter of Vespucci to Lorenzo di Pier Fransesco de Medici (Levillier, 1951:271 in Haviser 1991:166)

[25] Castellanos, who visited Curaçao, stated that "their language is the Caquetío" (Castellanos, [1589] 1962 in Oliver, 1989:257).

was smaller than 1.55 m, which could explain why the Indians looked like giants to the Spaniards (Haviser, 1987:72). One Bonerian skeleton, dated at 760 ± 25 years B.P., measured between at least 1.70 m and 1.76m, or possibly even more, and has been the only pre-Columbian Indian skeleton which exceeded the expexcted stature, and more or less corroborates Vespucci's statement (Tacoma, 1980).

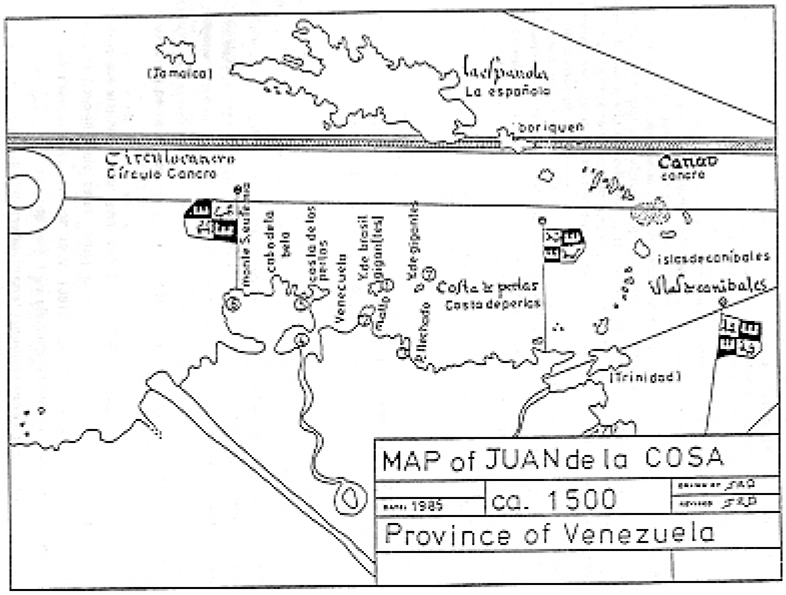


Figure 33. Redrawing of a Segment of the Mapamundi of Juan de la Cosa [1500] by Oliver (after Oliver, 1989:255).

Figure 34. Theodor de Bry Drawing of the "Island of the Giants" (De Bry, 1631:27 in Coomans-Eustatia & Coomans, 1987:15).

Before Ojeda began with his second journey in 1502, he was named governor of the island of Caquivacoa, Ququivacoa, Qunquevacoa and more frequently Coquivacoa (western coast of the Guajira) by Ferdinand and Isabella in June 1501, to which the 'islas adyacentes' also belonged[26] (Hartog, 1953:27). Aruba had a governor, who never put a step on the island, while there was no military fortification in the Spanish Period (Hartog, 1953:28).

The Indians on Aruba lived in two main centres, namely in Savaneta, while the majority lived between Piedra Plat and Noord, and their number is estimated to have been two to three hundred by father Jansen in 1909 based on oral tradition (Hartog, 1953:37-38; Nooyen, 1962:9). According to De Caay Fortman (1942:251in Hartog, 1951b:5) there lived four hundred Indians on Aruba at this time. The cacique of the Aruban Indians was called Simas, and when the Spaniards first settled, they brought an Indian cacique of the mainland called Golmir, whom they left behind with two Spaniards. Golmirs main goal was to talk the Aruban Indians over to convert to Christianity. After some time more Spaniards came to the island and probably settled at Ceru Plat according to Jansen (Jansen in Hartog, 1953:38; Nooyen, 1962:9-13).

Exploration and exploitation was encouraged, with Rodrigo de Bastidas exploring the area in 1500, Juan de la Cosa revisiting the islands in 1504, and Christóbal Guerra conducting slave raids up to until his death in 1504 (Haviser, 1991:172).

In 1513 Aruba, Bonaire and Curaçao were declared *Islas Inútilas* (not to be colonized by Spaniards) for agricultural, mining or other natural resources (Versteeg & Ruiz, 1995:54) by king Ferdinand of Spain (Kesler, 1940:181 in Hartog, 1953:32).

In 1515 Diego de Salazar, in order of the Spanish underking of Hispaniola Diego Colón, took about 2000 Indians of Aruba, Bonaire and Curaçao to work as slaves in the mines in Hispaniola, where there was a shortage of labourers (Hartog, 1953:28). According to Oliver (1989:258), Martin Baso Zabala had also raided a number of Caquetío out of Aruba, Curaçao and probably the mainland.

Aruba remained almost uninhabited (Versteeg & Ruiz, 1995:54); a few Indians escaped from deportation to the Venezuelan mainland, while others probably remained hidden in the Aruban forests and caves. The rest was killed directly be the Spaniards (Hartog, 1953:8; Wojciechowsky, 1980), while others were killed due to deseases brought by the Spaniards (Haviser,1987:149).

In 1511 Juan Martinez de Ampués (Ampiés), who is the founder of Santa Ana de Coro (1527), was named Royal Factor of Hispaniola[27] (Hartog 1953:29). In 1525 the islands of Aruba, Bonaire and Curaçao were put under his protection, and the resident indigenous inhabitants were given to him as usable labour under the *encomienda* system (Hartog, 1953:29; Goslinga, 1979:15 in Haviser, 1991:173). De Ampués was against the encomienda system prevalent in Hispaniola (Oliver, 1989:258). He was well-disposed towards the Indians, especially the Caquetíos, because they were very pacific people and mistakenly given the same

[26] The Venezuelan coast of Coquibacoa, Coro to Guajira, including Aruba, Bonaire and Curaçao (Haviser 1991:172).
[27] Originally he was a sugarcane cultivator in Hispaniola.

treatment as the *caribs*. He integrated them into his Hispaniolan household as *Indios de servicio personal* rather than using them as *encomendados,* which back then was a far better deal for the displaced Caquetíos (Oliver, 1989:258). In 1526 he made political arrangements with the 'paramount chief' ('cacique suprème') of Coro called Manaure, who lived on the Peninsula of Paraguaná, about the procurement of new Indians and the protection of Indians living on Aruba, Bonaire and Curaçao (Haviser, 1987:140). In that year De Ampués took some Indians back to Curaçao (and Aruba) with the intention of founding a new colony under Spanish supervision (Hartog, 1953:29; Oliver, 1989:259). The exact number of Indians is not known, but they were probably about two hundred of which certainly not all were Caquetíos who lived before on these islands, some were Arawakan Indians of other Caribbean islands (Hartog 1953:29-30; De Palm, 1985:186; Alofs, 1990:13), possibly Tainos and also Lucayos (Van Buurt & Joubert, 1994:12). According to Goslinga (1979:15), some 150-200 "Curaçaoan Amerindian slaves" were brought back to Aruba and Curaçao between 1525-1533 (in Haviser, 1991:174). The Indians on Aruba went to live at Ceru Cristal (Nooyen, 1962:8), which sometimes is also called Ceru Plat (Nooyen, 1979:49). When De Ampués arrived on the islands, he encountered Indians from the mainland, which means that the migration flow between the islands and the mainland still existed (Alofs, 1990:13). These immigrants came from Venezuela, and possibly Colombia (Versteeg & Ruiz, 1991:19; 1995:67). From this time on *indieros*, or slave hunters, were prohibited to "visit" Aruba. The island was only visited by ships for the importation of Brasilwood (*stokvishout*, *brasia* or *kampèshi*: *Haematoxylon Brasilleto*), what was pulverized or rasped to make a red dye (Terpstra 1942:22; Hartog, 1953:30-31), and also used for the reparation of ships (Alofs, 1990:14). Vespucci indicated that the Indians used this wood for house construction (Haviser, 1987:22). Other valuable species were *kwihi* (*kuihi* or *indju: Prosopis Juliflora*) and divi-divi (*watapana*: *Caesalpinia Coriara*) (Versteeg & Ruiz, 1995:54-55), which provided the tannin for skins (De Palm, 1985:187). The Indians cut the trees down in *repartimiento* (redistribution of Indians; workcontract); a variation of the encomienda system (De palm, 1985:187), while they were probably forced to help catching horses who freely wandered on the island until they were needed for trade (Alofs, 1996:14).

De Ampués' interest was to engage in peaceful business transactions with the Caquetío (Oliver, 1989:258), but probably he had selfish reasons for founding "his" colony, namely in 1527 he and Juan Fernando de Castro got a monopoly position from the Spanish government for the cutting and exportation of these trees in all Spanish colonies, and via the Arawakan colonists he could get in touch with the mainland Caquetío, expanding his meddling. Besides his colonization and wood trade, he probably also thought of the profitable Indian slave trade (Hartog, 1953:31). In 1527 De Ampués and Manaure confirmed a treaty at Coro, in which Manaure would receive protection from the indieros, while De Ampués would receive Amerindian slaves captured by Manaure from his enemies (Oliver, 1989:259; Haviser, 1991:174). His plans failed, as Charles V gave the Welsers, a powerful banking and commercial concern headed by two German brothers, the concession of founding a colony in Venezuela (*Gobernación* of Venezuela) in 1528. This would last till ca. 1546, while De Ampués didn't get enough support when he tried to take Coro with

violence (Hartog, 1953:31-32). Manaure and his Caquetío of Coro lost the guarantees that De Ampués had recorded to them (Oliver, 1989:259), while De Ampués remained landowner of Aruba, Curaçao and Bonaire, which fell outside the concession of the Welsers (Menkman, 1942:11). During the Welser period (1529-1556) severe abuse of the mainland Caquetío was enacted, reason why many of them fled to Aruba, Curaçao and Bonaire (Goslinga, 1979:17 in Haviser, 1991:174).

In 1528 Aruba, Curaçao and Bonaire were united into a captainship, the *Capitanía de Curazao*, and De Ampués became *veedor* (governor) of Aruba. He visited Curaçao briefly, but never visited Aruba, and in 1528 (or 1529) he returned, via Coro, to Hispaniola where he died in 1533 (Hartog, 1953:32; De Palm, 1985:186). He was succeeded by his son in law Lázaro Bejarano, whose daughter María de Ampués inherited De Ampués' rights (Römer, 1997:3). How the Spanish government was exactly organized on Aruba between 1502 and 1636 is not known (Hartog, 1953:37). Some government officials with the titles of *justicia mayor* and *mayor domo*, together with a clerk and possibly a lay brother with their families, will have formed the Spanish population. The Indians were under direct supervision of their cacique, who had been baptized and given a Spanish name (De Palm, 1985:186).

4.2.2 1533-1636

In these years goats, sheep, horses, donkeys, cows and pigs (grazing animals), dogs and maybe even cats, were brought to Aruba by the Spanish. The rabbit was probably later introduced by the Dutch, but soon ran wild. Aruba became a kind of ranch, where the animals were roaming freely over the whole island in search of food, although it was already very deforastated. From time to time a small group of Spanish men came to the island, but Aruba was generally neglected (Hartog, 1953:34). The orange-, pomegranate- and lemontrees were also brought to Aruba by the Spanish, and also sugar (De Palm, 1985:186).

Aruba was inhabited by a group of Indians converted to Christianity, which was held at strength by the arrival of mainland relatives, and a handful of Spaniards. There's no reason to think that the contact between the mainland Indians and the Indians living on Aruba would be disturbed by the Spanish, because this would have affected the continuos flow of labourers (Phalen, 1977:49 in Alofs, 1990:14). Most of the Indians lived at Santa Cruz, Savaneta and Fontein (Hartog, 1953:37), some kilometers inland between Savaneta and Oranjestad (Nooyen, 1965:15). In this Spanish Period there were no Negroes on the island (De Palm, 1985:186), while Spanish and Amerindian languages, especially Caquetío, were widely spoken (Van Buurt & Joubert, 1994:14).

In 1540 Juan de Castellanos visited Aruba and Bonaire, and called the Indians living on these islands Caquetíos, while he desrcibed the women as being very beautiful (Engels, 1970).

In 1593 Aruba was visited by the count of Cumberland (on his seventh voyage) with his crew to refresh themselves, but what they exactly did is not known. In 1601 David Middleton with captain Michael Geare, visited Aruba where they stayed ten days. They took fresh water and Brasilwood, but seven of their men were killed by the Indians (Bosch, 1985 [1836 II]:143; Hartog, 1953:35-36). Aruba was visited on a regular

basis by Spanish priests, although little is known of these visits. Monsignor Monzanillo, who was nominated in 1580, has been to Aruba to administer the sacred confirmation. He called himself the Bishop of Venezuela and the province of Caracas and of the islands of Aruba, Bonaire and Curaçao (Hartog, 1953:39). Aruba formed part of this diocese of which Rodrigo de Bastidas was the first bishop (De Palm, 1985:186).

Just before, or at the time the first Dutch men visited Aruba, a battle took place between the Indians and French raiders, a fact which is not historically confirmed. When the French invaded the island, the Indians fled to a cave, where they were killed by smoke (Bosch, 1985 [1836 II]:141; Van Koolwijk 1882:226; Wernet-Paskel, 1992:25). The place where this battle took place is named Rooi Frances (Hartog, 1953:55).

4.3 ARUBA UNDER THE WEST INDIA COMPANY (1638-1792)

4.3.1 1636-1700

The first Dutch saw Aruba possibly on the 24th of April 1624, under the command of Pieter Schouten. Johan de Laet, who was on board, states that Aruba was inhabited by some Indians and a few Spaniards (Hartog, 1953:40-41). By this time Aruba was part of the *Conqueste* of Curaçao. In 1634 the Dutch, under Johan van Walbeeck, conquered Curaçao without much resistance of the Spaniards and Indians, while Bonaire was turned over to Dutch control soon after 1635 without any struggle (Hartog, 1953:43; Haviser, 1991:176). In February 1636 Van Walbeeck was making plans to capture Aruba, after having got the time to get a picture of the situation on this island (different ships sailed by Aruba in 1635). An exact date of the Dutch conquest of Aruba doesn't exist, but Van Grol thinks that in the second half of 1636 the Dutch took possession of Aruba (Hartog, 1953:45).

According to Johan de Laet, at this time Aruba was only inhabited by a few Indians and Spaniards, probably a few tens of them (Hartog, 1953:45; Spruit, 1988:116). The greater population of Indians and Spaniards living on Bonaire and Curaçao, were deported to the Venezuelan mainland, where they were left on the shore, some fifteen miles away from Coro (Goslinga, 1971:269). Some Indians were permitted to stay on Curaçao. The Spaniards on Aruba gradually withdrew taking their Indian slaves with them, and the remaining Indians retreated to the mainland. According to Ten Kate, the Indians of Aruba were also deported to Venezuela (Hartog, 1951b:5). By the end of 1636 Aruba was totally uninhabited (Hartog, 1953:45-46). Howerver, I think that some of the Indians could have managed to remain hidden in the interior of Aruba.

The Indians of these islands were not trusted by Van Walbeeck, because he knew that they weren't the original inhabitants and were once allies of the Spaniards (Hartog, 1953:45-46). After the Dutch totally took possession of Aruba, Indians began migrating again to Aruba. They possibly came from the area West of Maracaibo, as they were in war with the Spaniards and fled to these islands (Van Grol, 1934; Hartog,

1953:46). The Indians living at Spaans Lagoen moved to Cero Plat, from where they scattered to Northern Aruba (Nooyen, 1965:15).

The W.I.C. made an economic plan in 1636 for the three islands: Curaçao would become an agricultural area, Bonaire was going to be used for saltmaking and for the cultivation of maize, while Aruba would be used for horse breeding. Aruba would be a cattle ranch to feed the population of Curaçao, whose population would be less dependent on food deliveries from Holland (Versteeg & Ruiz, 1995:55). For these purposes, African slaves were required for Bonaire and Curaçao, while Indians would be needed on Aruba. Van Walbeeck had bad experiences with Europeans and Africans trying to catch the wild horses, reason why Indians were required, because they were very good at this. So the migration of Indians to Aruba was stimulated (Hartog, 1953:46).

In 1641 the Heren XIX decided that New Holland and Aruba, Curaçao and Bonaire were to be united under a single governor, for which position Peter Stuyvesant was chosen (Goslinga, 1971: 281).

In November 1642 Stuyvesant visited Aruba, on an expedition to recapture Bonaire from the Spanish, while they were on their way to burn some Spanish ships in Puerto Cabello (Venezuela), on which mission also Aruban Indians participated (Alofs, 1997:17). After two weeks he visited Aruba again after completing his mission, and it seems that after the neglection of Aruba in the first years, Stuyvesant considered Aruba of strategic importance in the battle between the Dutch on Curaçao and the Spaniards.

The Aruban Indians did such a good job, that in 1643 they were asked to come to live on Curaçao, what a part of them accepted and consequently they migrated to Curaçao (Alofs, 1997:17)

The name of Aruba is constantly mentioned in the documents of these years, especially as the place where horses were taken. Aruba became of strategic importance and functioned as a *provision depot* in actions against the mainland, which naturally came to an end after peace was made between the Dutch and Spanish in 1648 (the end of the ‘80 years war’)(Hartog, 1953:47).

After 1651 (Act of Navigation) and as a result of English wars against Holland, Aruba was visited different times by buccaneers, like in 1651 by the English buccaneer David Gilbertson who took twelve horses (worth 300 guilders a piece), without any resistance, because the Lieutenant Governor had only a few horsemen at his disposal. In 1652 Jan de Yllan, who lived on Curaçao, traded horses and Brasilwood from Aruba and Bonaire, what means that the trade in Basil wood from Aruba was still lucrative (Hartog, 1953:60). In 1655 the W.I.C. recognized the Aruban Indians as trade partner (Alofs, 1997:17). In 1660 Aruba was visited by an English raider who robbed a private ship, named *De Vergulde Paeuw* (Hartog, 1953:56).

Aruba had a Lieutenant Governor just like Bonaire, who was subordinate to the director of Curaçao. The Lieutenant Governor of Aruba was in the beginning the only white man on the island, and his interference was so small, that they named him ‘the chieftain of Aruba’. The W.I.C. called him *Opperhoofd des Eylands Aruba*, and he was probably killed by the Indians (Alofs, 1997:17). The W.I.C. didn’t care much about Aruba, just like the Spanish did, and in 1647 Aruba, Bonaire and Curaçao with New Holland were brought

under the government of Stuyvesant, which relation ended when New Holland was lost in 1664 (Hartog, 1953:48). But there was some contact between Curaçao and Aruba, given the fact of the presence of a Company's ship in 1659, and some ten years later there were a Lieutenant Governor, a sergeant and ca. fifteen soldiers living on the island (Menkman, 1942:91).

The Indians had a better legal position under the Dutch than under the Spanish, as they could not be enslaved and lived under the same laws as the white colonists, what didn't mean that in practice this was true (Hartog, 1953:56). The Dutch had to civilize the Indians, and through education of their children, they had to convert them to Christianity. The adults had to exercise a profession, preferably being an agriculturist, or else something they were good at (Van Grol in Hartog, 1953:57). The W.I.C. didn't do anything to convert the Indians to Protestantism, which was the religion of the few Dutch living on the island, while Catholicism was forbidden, but despite this, it didn't stop the yearly visits of Spanish priests from Coro (Hartog, 1953:78; De Palm, 1985:192; Alofs & Merkies, 1990:18).

The free Indians were under the supervision of a so-called captain, and as they were not labourers of the Company, they were assigned a piece of land to maintain themselves (garden cultivation). In the captainship it was guaranteed that a third party couldn't take advantage of the Indians (Hartog, 1953:57). The Indians kept an eye on the cattle and caught it when requested by officials of the W.I.C., while they cut and sold wood and exploited marine resources (Versteeg & Ruiz, 1995:55).

In this period only the Lieutenant Governor had some (black) slaves. In 1661 there were so many goats on the island, that Aruba, and also Bonaire,were called 'the goat islands'. In this time, besides the horses which were used in expeditions on the mainland, the goats were the prime reason ships visited the island, because they were a delicious meal for the men who were accustomed to eat salted meat (Hartog, 1953:57). In 1668 Sir Henry Morgan visited Aruba, on which occasion one of his men, A.O. Exquemelin, gave a description of the Aruban way of life in the second half of the seventeenth century. The Indians spoke Spanish, and because of Catholicism, were constantly visited by a Spanish priest living in Coro. They traded with buccaneers, and did everything on a horse. After a two day visit, the English sailed away underhand (Hartog, 1953:53-54).

In 1674, the second West India Company took possession of the old one, which didn't change the situation for Aruba; it remained neglected and undefended (Hartog, 1953:55). In 1677 Jan Erasmus Reining, a Dutch buccaneer, visited the island for two weeks and left with a shipment of fresh meat (goats) (Hartog, 1953:58-59).

Aruba became a big plantation of the W.I.C., a *de facto* Indian Reservation (ca.1640-1754), only to be colonized with the permission of the director; some Curaçao traders were allowed to trade on Aruba, but not to settle (Versteeg & Ruiz, 1991:11; 1995:56).

4.3.2 1700-1754

In 1701 Aruba was inhabited by Lieutenant Governor Flaccius, two horsemen and two soldiers (Hartog, 1953:56). Possibly there lived only a few hundred Indians on the island, in small settlements at Savaneta, Santa Cruz, Fontein and possibly at Forti Abau (Hartog, 1953:59). According to Nooyen, the Indians lived at three centres, namely Cero Cristal, Moko and Alto Vista (1965:15-16).

In 1722 the Spanish raider Balthasar Carión came different times to Aruba and robbed cattle successfully, while Aruba still didn't have a fortification. It's interesting to note that in 1723 a town named Carrisal was founded in Coro by Caquetíos whom voluntarily came from Aruba, and they kept assembling the Indians of the island, while they were baptized at this town (Martí, 1969:54).

Between 1725 and 1727 a Dutch man called Printz worked on Aruba in search of gold, helped by Indians and slaves, but his finds resulted to be disappointing[28] (Hartog, 1953:62-68). According to Jansen, in 1727 it was a tradition that the cacique of the Aruban Indians prepared the people to be baptized. The cacique at that time was Antonio Gonzales, and from time to time he invited a priest from Coro to come to Aruba to do the baptizing (Hartog, 1953:81-82). Also other special feats and occasions (e.g. Carmel-devotion) where a priest was needed for, a priest from Coro was invited. The Indians were illiterate, so they could only say their rosary (Hartog, 1953:83).

The Indians moved away from the easily accessible south coast, because there the Europeans and the buccaneers came who hunted the Indians for red slaves (Hartog, 1953:82), and went to live in the area between Noord and Piedra Plat (Alofs & Merkies, 1990:19). Still whites were prohibited to settle on Aruba, but old Lieutenant Governors often stayed on the island with their families and became the patriarch of the oldest families on Aruba (Krafft, 1951:66). Besides the Indians living on the island, red slaves (minor girls and captive boys) were raided or bought by the Aruban Indians on the mainland and brought to the island, but there were still no black slaves (officially) living on the island, as they were not mentioned in documents between 1697 and 1758 (Hartog, 1953:68-69).

In 1750 the first chapel was built on Aruba at Alto Vista, functioning primarily for the Indians. The profession of the Indians living in this area was wood cutting (Hartog, 1953:83, 88). Of this year the first document is known officially mentioning black slaves living on the island, who were three 'Elminasic' slaves who murdered four persons (Terpstra, 1948:8; Alofs, 1996:9, 11).

4.3.3 1754-1792

In 1754 Mozes de Salmo Levy Maduro, the first white colonist, was allowed to settle on Aruba, but under strict conditions. Between 1754 and 1767 some colonists from Curaçao settled on Aruba under the same strict conditions[29], while they were also obliged to carry out 'gentlemen services' (*herendiensten*), like

[28] There seems to have been found some gold in 1750 according to Menkman (1942:173).
[29] Trade, selling land and breeding cattle were prohibited, or very restricted.

cleaning tankis (Alofs, 1996:9). In 1772[30] the second church was built on Aruba at Noord, and was called the Santa Ana Church. A year later, in 1773, the first (black) landslaves came from Bonaire to Aruba; two old and two young slaves who from then on would watch over the sheep flock (Alofs, 1996:11).

In 1775, in an official declaration between the Captain of the Indians and the West India Company, it is stated that the Indians had to cut wood and catch cattle when required by the Company, in return for the piece of land given to them (Rodier, 1775 in Hartog, 1953:76). Nooyen (1965:26) thinks that at that time there lived some five hundred Indians on the island, settled in Northern Aruba, while a small group of Europeans lived at Savaneta. However, in 1779 J.H. Hering mentions that only a few Indians, a Lieutenant Governor and a vice-Lieutenant Governor lived on Aruba. Aruba was still practically uncultivated, while the trade with the mainland went on.

From ca. 1780[31] white colonists began to settle on the island, coming mainly from Curaçao and Bonaire (Dutch, Belgians, Germans, Italians, French, English and Spanish), of which some were born in Europe. This was the result of land tax, which was introduced in 1785, what made it easier to get a licence to settle (domicliation permit) (Hartog, 1953:72). The colonists settled principally in the flat northwestern part of Aruba, at places like Buena Vista, Daimari, Parkietenbosch, Ponton, Tanki Lender, Shiribana, Tarabana and Santa Marta, where they had small plantations especially for the breeding of sheep and goats (Hartog, 1953:72-73; Nooyen, 1965:27).

With the arrival of white colonists, little by little integration with the Indians took place, with the Indian element forming the basis of the Aruban population of today (Hartog, 1953:77). Although he Indians tried to live as far away as possible from the white colonists, this was an irreversible process (Versteeg & Ruiz, 1995:67). The exportation of horses to Cuba and Jamaica remained one of the most important sources of income on the island (Hartog, 1953:75).

On the first of January 1792 the second West Indian Company was liquidated (bankrupt), and her possessions were taken by the Republic of the United Netherlands (the State), what meant the end of a strongly Dutch controlled period (Menkman, 1942:130-131; Krafft, 1951:15; Hartog, 1953:75; De Palm, 1985:189; Alofs, 1996:9).

4.4 YEARS OF CONFUSION (1792-1816)

4.4.1 Under Different Powers

In 1789 the French Revolution began, while in 1793 France and Holland ('The Republic') were at war with each other. In 1796 an English attempt to take away some ships in the Paardenbaai of Aruba failed (Menkman, 1942:188). Curaçao was even attacked by French ships, but all of this went unnoticed for

[30] In 1777 and 1778 in other sources (Alofs & Merkies, 1990:19).

[31] From 1770 according to De Palm (1985:192), and from 1785 according to Alofs (1996:9).

Aruba. In 1796 a small fortification with four guns was built at the Paardenbaai, but this wasn't enough to protect the island against enemy attacks (Bosch, 1985 [1836 II]:153; Menkman, 1942:193). In that same year, governor Johan Rudolf Lauffer and the persons living at Paardenbaai, were allowed to trade under certain restrictions, which would disturb the calm way of life of the Arubans (Bosch, 1985 [1836 II]:153). In 1796 or 1797 Fort Zoutman was built[32] in order of governor Lauffer, being the first real fortification of Aruba (Hartog, 1953:74). In 1799 three ships with ammunition were sent to Aruba for it's defense. There was a scarcity of food in this year, and food was sent for by Lauffer. In that year Aruba (Fort Zoutman) was attacked by the English captain Edward Hamilton on the frigate Hermione, but the attack was beaten off. It was the only enemy attack in history against Fort Zoutman (Bosch, 1985 [1836 II]:154-160; Hartog, 1953:92).

In 1800 Aruba was threatened by a famine because the harvests failed due to the drought, and on the 18th of April a ship full of flour was sent for the approximately thousand inhabitants of Aruba. Three more shipments were sent to Aruba on 15 May, 13 June and 27 September, while an English cruiser left a ship full of French fugitives behind on the island. In this time Aruba was sometimes used as a deportation place for people who behaved badly, like soldiers (Hartog, 1953:115). In that same year the Curaçaon government decided to put itself under English protection, in order to protect itself against a French fleet in their harbour (Menkman, 1942:189). In 1802 the 'peace of Amiens' put Aruba and Curaçao back under Dutch control. In 1803 the three Dutch Leeward islands were taken over from the English, but on Aruba nothing changed (Hartog, 1953:92-93; Menkman, 1942:189). On the 28th of June 1803 a new war broke out between England, France and Holland. In 1804 the English frigate Diana, under captain Mahling (or Maling), came to Aruba, and Aruba capitulated directly because of the bad defenses (they even offered the four guns of Fort Zoutman as land's cattle). The English flag flied only a week, and when the English left, the Dutch flag was ran up again. These short visits went on for some time; the English always put some men on land, after which the British flag was ran up, and soon the British left again. Almost always the Lieutenant Governor was not even replaced, until in October 1805 the first English Lieutenant Governor was placed, namely W. Doran (Hartog, 1953:94-95). In November Changuion made a plan to recapture Aruba from the English (estimated to be some 25 men), and accompanied on the ship Suriname by amongst others Balfour, Quast and the famous Luís Brión, they attacked on land and on sea. They tried to take possession of Fort Zoutman, which for the second and last time came into action but this time manned by the enemy (the English), in a battle that lasted two days. On land two Indians showed the best way to come to the fortress, while fifty Indians offered their help to (re)capture Fort Zoutman, but by this time the English surrendered. In December 1805 some English came to Aruba who were beaten off after a short battle, but in January 1806 hundred and fifty English came on the island, and the inhabitants escaped to the

[32] At a place which later would become Oranjestad, the capital of Aruba, founded in 1824.

woods. After destroying the Lieutenant Governors home and taking some animals, they sailed away two days later promising to return (Bosch, 1985 [1836 II]:160-163; Hartog, 1953:96-100).
In 1806 the Venezuelan rebellious general Fransisco de Miranda took two times possession of Aruba in his battle against the Spaniards (helped in his battle by the English), from the 10th till the 15th of April, and from the 19th of August till the 25th of September. On these occasions no Indians or other inhabitants helped him, because they were very afraid, so De Miranda had to force some men to help him with his needs. In May a few English ships were again on Aruba, this time for twelve days. A proclamation of De Miranda for the Aruban inhabitants was written in Spanish, because nobody could speak Dutch. After leaving the island, De Miranda soon returned to England (Bosch, 1985 [1836 II]:163-166; Hartog, 1953:100-109). In 1807 Curacao fell in the hands of the English, what meant that Aruba automatically also fell in English hands (Bosch, 1985 [1836 II]:166-168; Hartog, 1953:109)
Of the period 1807-1816 not much is known, and also about the English government we don't know much. The food supply was a big problem in those days, and when in 1808 it leaked out that Aruba was trading with the Spanish coast and Jamaica, trade was prohibited on the island. These were difficult years, and constantly food had to be asked for from Curaçao and the mainland (Hartog, 1953:110).
Almost all the goats and sheep were gone (between 1790-1813), and only a small amount of usable wood was left on the island, while there were no teachers or priests (Hartog, 1953:128). On the 11th of March 1816 England officially capitulated, and again Holland took possession of Aruba, this time for up till now, and tranquillity returned to the island (Hartog, 1953:119, 174-258). England didn't do anything for the progression of the island, they destroyed part of the infrastructure, while trade, cattle-breeding and agriculture were neglected (Alofs, 1996:10).

Little by little the Indian element disappeared, as a result of mixture with the other races (Negroes and Whites) living on Aruba. On Aruba there was a feudal system, and most of this mixture took place in the lower classes. The Indian language was slowly pushed away by *Papiamento* (*chapter 6*), while the Indian language was already gone on the other islands by this time (Hartog, 1953:111). Probably around 1800 the old Indian language disappeared (Hartog, 1953:224). According to Bosch, around 1830, Indians, Whites and Negroes were even intermarrying, and little by little they forgot their own languages and began to talk the White men's language, namely Papiamento. Bosch mentions hearing the Indian language only when people got angry or drunk in far away places (Bosch, 1985 [1836 II]:151). Van Koolwijk with difficulty made a list in 1880 of a few (possible) Indian words, which he collected from a few old Arubans.
Despite this mixture of different races, the Indian element dominated the Aruban population, more than on Curaçao and Bonaire, and there were minor differences in the customs between the different races on the island (Hartog, 1953:112-113). The Indian element was strengthened by the constant contact between the mainland and Aruba, and also the family ties between these two nations through marriages (Hartog,

1953:113, 242-248). Indians and half-blooded Indians even converted to Protestantism, the religion of the upper classes, between 1780-1816 (Hartog, 1953:117).

In 1816 there were 546 full-blooded Indians living on Aruba (*table 3*), of the total population of 1732 of which 1396 were free people, and 366 were slaves (Hartog, 1953:125). On Curaçao the last full-blooded Indians (five) are recorded in 1795 (Menkman, 1942:162; Goslinga, 1979:6 in Haviser, 1987:58, 150). In 1806, 30 % of the population on Bonaire was Amerindian, while in 1816 there were no more full-blooded Indians living on that island (Hartog, 1957:108 in Haviser, 1991:179)

In general, the Indians of Aruba never really caused any serious trouble to the government of the island; only in 1740, in 1792 and in 1826/1827 (Bosch, 1985[1836 II]:144; Menkman, 1942:162-163; Hartog, 1953:223-224). They were described to Bosch as being very obliging to Whites when asked for voluntary help (Bosch, 1985 [1836 II]:152).

4.4.2 The Years after

In the second half of the nineteenth century the number of red slaves (wild Indians) increased on the island (Hartog, 1953:222). These red slaves were often underaged girls or boys who were prisoners of war, and were bought on the mainland from the cacique (Hartog, 1953:57). Probably these red slaves were Guajiro Indians (Wojciechowsky, 1980). They were smuggled into Aruba, even by their own congeners[33], which ultimately resulted in human kidnapping, and from time to time this developed a hostile relationship between Aruba and the mainland (Hartog, 1953:222-223). Bosch wrote that these Indians were the ugliest Indians he saw in America; they were small, ugly and fat, (Bosch, 1985 [1836 II]:86, 89). Often these Indians ended up as house maids with rich families, or they wandered around on the island, changing from boss to boss (Hartog, 1953:113; Wojciechowsky, 1980:132; Alofs & Merkies, 1990:29).

In 1827 the Lieutenant Governor of that year Plats, ordered that all employers had to treat these Indians as free persons and give the children a Christian education, teach them and learn them a profession (Hartog, 1953:223). A problem was that after being baptized, the Indians couldn't return to the mainland, because they would be killed. For this reason and because they had a much better life on Aruba (Bosch, 1985 [1836 II]: 86, 89), these 'wild Indians' could be found on the island until the beginning of the twentieth century (Hartog, 1953:223). Some of these red slaves (35) are mentioned in baptism books from 1823 till 1830, and all were between 2 and 20 years old. They are always mentioned by their first name without their last name, but as being 'from Guajira' or sometimes 'red slaves' (Nooyen, 1962:88-89, 1965:35-36). According to an oral tradition of which there's no evidence, the last full-blooded Indian on Aruba, Nicolaas Pyclas, died at Savaneta in ca. 1862 (Hartog, 1953:224). According to Koeze and Wagenaar Humelinck, he died around about 1840 (Koeze, 1904:18; Wagenaar Hummelinck, 1959:81). Tacoma investigated the skull of this

Indian, and estimated the age at death at approximately fifty years (Tacoma, 1959:93). In 1863 slavery was officially abolished in Aruba, putting an end to this inhuman practice.

At the end of the nineteenth century an old man from Savaneta told Van Koolwijk that as a child he witnessed the funeral of an Indian woman, which was an urn burial. At this occasion many people were invited, and several sheep and goats were killed (Van Koolwijk, 1882:224). Van Koolwijk mentions in a letter to C. Leemans, dated on the 17th of April 1883, that several persons have told him that an Indian named Uncle Kaus (Kausie), who lived at Tanki Flip, was a fisherman (caught fish by hand!) and donated most of his catch to bystanders, which is a typical Indian behaviour (Versteeg & Ruiz, 1995:27-28; Versteeg *et al., in prep*., 1997). The Indians were desrcribed by Van Koolwijk as being strongly built, copper-coloured men and women, having wide shoulders, round faces, wavy pitch-black hair, an erect posture and gait, possesing innate pride and dignified manners (Van Heekeren, 1960:103).
Despite all this information, the exact origin of the Historic Indians is not known (Alofs, 1997:17; Versteeg & Ruiz, 1991:19).

Some important facts of these 'years after' are that the capital of Aruba, Oranjestad, got its name in 1824, and people began to live there in 1822 (Harog, 1953:175, 176). Futhermore, there were two goldfevers on Aruba, the first from 1824 till 1832, and the second one from 1868 till 1915. In these periods 1.343.816 kilos of gold were found (Hartog, 1953:154). Phosphate winning was the most important source of income between 1881 and 1915 (Hartog, 1953:155-156). In between these periods, agriculture was focused upon, aloë being the most important exportation product (Alofs & Merkies, 1990:35-37).
In 1924 a new era began with the Lago Oil refinery, being the main source of income till 1984, when it was ("temporarily") closed. In 1986 Aruba got its 'Status Aparte', and since then Tourism has been the most important source of income.

1816	MEN	WOMEN	BOYS	GIRLS
4 Dutch	3	1	0	0
187 born whites	60	57	37	33
20 white strangers	9	4	1	6
564 full-blooded Indians	**134**	**192**	**123**	**115**
584 coloured free people	127	160	144	153
37 free Negroes	7	13	6	11
133 coloured slaves (Indians)	20	9	65	39
203 black slaves	46	81	44	32
Totals	340	427	311	318

Table 3. Population Figures of Aruba in 1816 (after Hartog, 1953:125).

[33] Aruban Indians who in the course of the years worked themselves up on the social scale (Hartog, 1953:113).

In **1804** there were 1155 persons living on the island (Hartog, 1953:112).

In **1806** there were 1546 persons of which 1352 were free people, and 194 were slaves: 1221 were Catholic, 308 were Reformed (*Protestant*), 8 were Lutherans, 9 were Jews. There were 141 Indian family heads, 60 white, 7 Negro and 48 of a mixed origin (Hartog, 1953:113, 118).

In **1820** there were 1877 persons living on the island, of which 1510 were Indians (coloured): there were 331 slaves, of which 157 were Indians. According to Nooyen the 'coloured' ones were Indians (Nooyen, 1965:33, 35).

In **1837** there were 491 slaves, of which 247 were Indians.

In **1840** there were 497 slaves, of which 269 were Indians (after Alofs, 1996:13; Nooyen, 1965: 32-33, 35).

5. THE ETHNO-HISTORIC CAQUETÍO

5.1 INTRODUCTION

At the end of the fifteenth century, just before Aruba would be "discovered", there was a great Indian nation developing in Northwestern Venezuelan, of which the Aruban Indians formed part of. The Indians of this great nation were called the Caquetío, but unfortunately they would be abruptly disturbed in their cultural development by the European intruders. On the cultural scale of development they were at a chiefdom level, and were ever increasing, with Aruba forming part of the core area. At that time the reigning supreme leader (cacique supréme), or 'diao'[34], was named diao Caujarao (Beaujon 1982:49 in Haviser, 1991:165). His eldest son called Manaure[35], later baptized by the Spanish (De Ampués) as Don Martín Manaure, would in time become the most important leader in the Caquetío history.

As the Caquetío of Aruba belonged to the same social and political interaction sphere of the Coastal Caquetío, and its caciques had close kinship ties with others in the Peninsula of Paraguaná (Oliver, 1989:268-269), most of the gathered information is focused on the Coastal Caquetío.

5.2 ETHNIC BOUNDARIES

5.2.1 Caquetío Geographic Distribution

The Caquetío had a wide geographical distribution in Western Venezuela, ranging from the Llanos of Casanare, to the Llanos of the Cojedes and Apure rivers, up into the valleys of Yaracuy and Barquisimeto (*figs. 35, 36*). Their territory was bounded by the Coculza river to the west, the Guegue river to the east and the Tocuyo and Baragua rivers to the south (Hernández de Alba, 1948:469; Salas, 1920 in Haviser, 1987:56). In the sixteenth century the Caquetío were among the most widespread Arawakan-speaking groups in northern South America (*fig. 37*). The Caquetío were found in the coastal plains what is today the Falcón State, between the Golfo Triste and somewhere near the Cocuiza-Maticora river, and they also occupied the Peninsula of Paraguaná and the islands of Aruba, Bonaire and Curaçao. This entire coast was occupied by a single Caquetío polity, and there is no evidence of the presence of other non-Caquetío ethnic groups in this area, what makes it the largest contiguous territory under a single Caquetío polity at the time of Contact (Oliver, 1989:199). A second group of cluster of Caquetíos was concentrated in the Barquisimeto valley, a third was located in the Yaracuy Valley, while

[34] Lord or cacique of the Caquetíos' territory in the Gobernación of Venezuela (Coquibacoa as it was known in the sixteenth century),
or more specifically: the principal lord, that has many Indians and to whom other caciques are subjects (Oliver, 1989: 164).

[35] Manaure could have been a word of his title, and if this is true, then we don't know his real name (Dupoy, 1953 in Haviser, 1991).

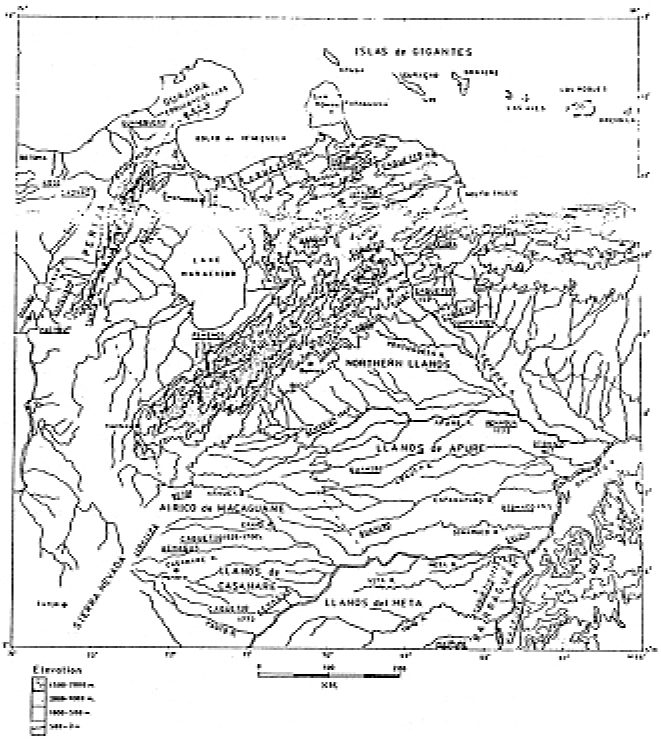


Figure 35. Sixteenth Century Ethnic Distribution in Western Venezuela (after Oliver, 1989:184).

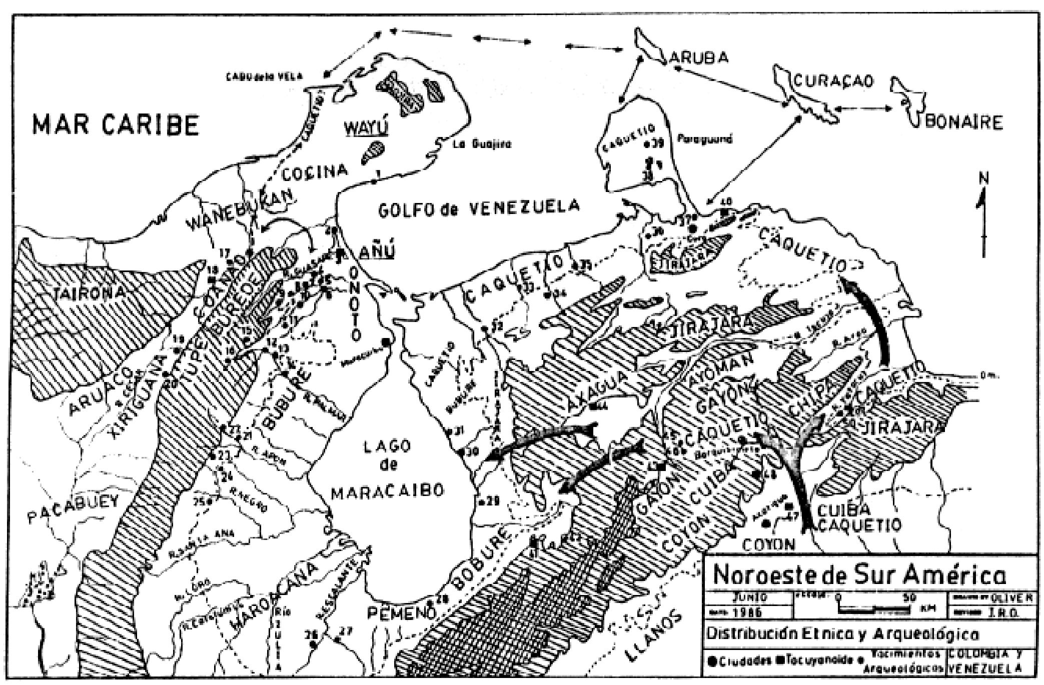


Figure 36. Ethnic and Archaeological Distribution in Northwestern Venezuela (after Oliver, 1989:187).

several were reported in the Cojedes River (Hacarigua), and even as south as the Apure River/Llanos de Casanare. These regions presented different ecological conditions, resources, and strategies of adaptation, having only in common that they are tropical lowland environments and that the Caquetío's primary mode of subsistence was agriculture (Oliver, 1989:251-252).

The interaction spheres defined by Oliver are the Western Sphere, the Falcón-Lara Highlands, Coastal Falcón, Barquisimeto-Yaracuy and the Northern Llanos (Oliver, 1989:48).

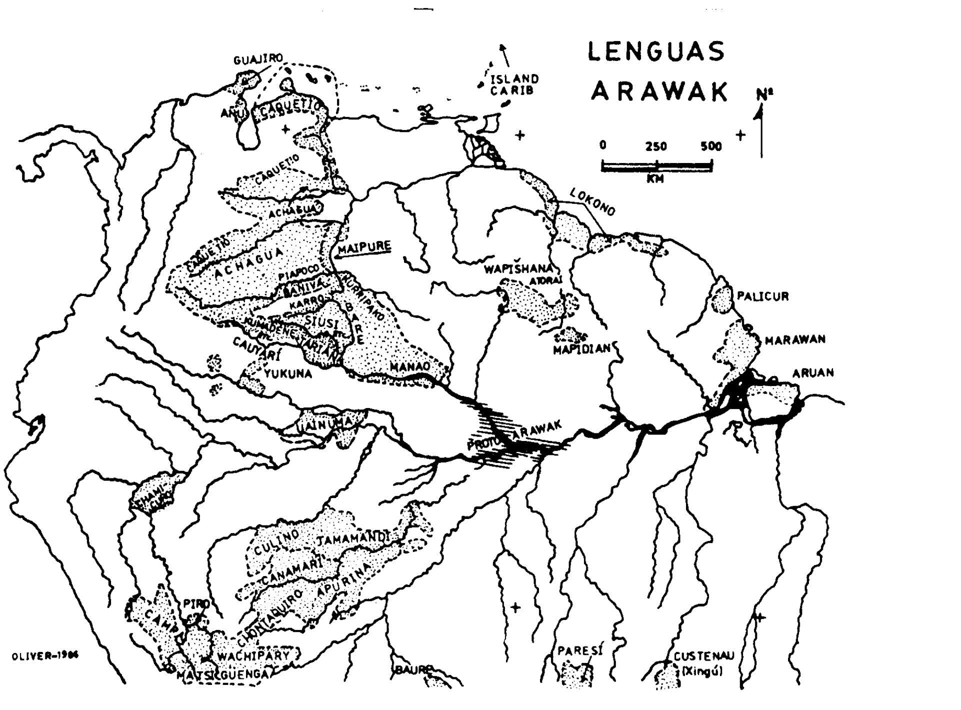


Figure 37. Distribution of Arawakan Languages (after Oliver, 1990:94).

5.2.2 The Western Sphere

The Western Sphere is comprised of the Maracaibo lake and its alluvial floodplains, the semi-arid xerophitic Peninsula of Guajira, and the riverine valleys of Ranchería and César (Oliver, 1989:185).

The Western Sphere was dominated by ethnic groups from three major linguistic stocks, namely the Arawakan (Northern), the Cariban (Northern-Coastal) and Macro-Chibchan/Paezan (Chibchan) (Oliver, 1989:228). Within the Western Sphere the Caquetío were a minority (numerically inferior) embedded, but not necessarily mixed with other ethnic groups (Oliver, 1989:199, 228-229).

The Caquetío settled in two areas of the Peninsula of Guajira, one area was the Cabo de la Vela, while the other is more vaguely defined and was possibly situated between Punta Espada and Punta Chichibacoa (Parra, 1930:284 in Oliver, 1989:202, 306). These Caquetío selected the Wanebucan as their trading partners, while they shunned such relationships with the Onoto, Kusi'na and Guajiro Indians (Wayú). Their

presence in the Peninsula of Guajira was probably the result of advantageous trade, being located at an intermediate point between the César-Ranchería valley and the coastal Falcón areas. The Coanoa, who had outpost settlements on the peninsula, were probably trading intermediaries between the Caquetío and the Macro-Chibchan groups of Sierra Nevada, and also the groups around Tamalameque and Zapatosa (Oliver, 1989:229).

Also around the Maracaibo lake, in the south-southeastern quadrant where the province of Juruara is located, there were also Caquetíos living (Oliver, 1989:203-204). These settlements were located among the Carib-speaking Bubures, and their relationship appears to have been more than a simple trade partnership (Oliver, 1989:228-229). Oliver thinks that these Juruara Caquetío and those of the Guajira's northern and northeastern coast were *avant-garde* settlements of the expanding Caquetío out of the coast of Falcón and/or the islands of Aruba and Curaçao. Unfortunately, very little is known of their cultures (Oliver, 1989:203, 205).

5.2.3 The Falcón-Lara Highlands Sphere

The Falcón-Lara Highlands Sphere is geologically defined by the Falcón Anticline, an orographic system of mountains arising south of the western coast of Falcón (Oliver, 1989:231). In this sphere the Jirajaran-speaking ethnic groups lived, namely the Jirajara (Girara, Jirara, Xidehara), the Gayón (Coyón, Cuyón), and the Ayoman who were differentiated into two sub-groups based on physical (genetic) attributes: the 'midget' Ayomanes and the 'mixed' (with Jirajara) Ayomanes (Oliver, 1989:236). The Jirajara language belongs in the Paezan sub-division of the Macro-Chibchan-Paezan division of the Amerindian 'super' Stock (*ibid*.).

The Gayón were archenemies of the Ayoman and of the Xagua (Axagua or Jagua) who inhabited to the south-southwest of their territorial limits (Oliver, 1989:244). The constant state of raiding and guerrilla warfare (at least those groups bordering the Barquisimeto valley), was partly due to population pressures and competition for lowland territories occupied by the better organized and numerically superior Caquetío of Barquisimeto (Oliver, 1989:246). The Caquetío had forced these nations to live in the mountains, so that they could become the only ones to posses and dominate the extremely fertile lowland. These Caquetío didn't inhabit the highlands, neither here nor around Coro, but always settled the best and most fertile lowlands and didn't tolerate other nations in the lowlands (Federmann, [1557] 1985; Oliver, 1989:246-247).

5.2.4 The Coastal Falcón Sphere

This sphere is primarily a semi-arid xerophitic province, and the riverine systems along the western coast are characterized by an intermittent water flow. Agriculture is difficult to sustain, and a successful harvest requires crops with short growing seasons to coincide with the brief rainy seasons, or it needs human intervention in the form of irrigation by artificial ditches, or irrigation by hand extracting water collected from artificial ponds (Oliver, 1989:252).

This Caquetío polity expanded throughout the entire coast of Falcón, including Aruba, Bonaire and Curaçao, an area entirely inhabited by only Caquetío, and included in the sixteenth century frontier outposts in the Peninsula of Guajira and in the southeastern Maracaibo lowlands (Western Sphere) (Oliver, 1989:268). It has been said that at the time of Contact, the villages in the region of central Falcón were over 100, and some 14.000 or 15.000 Caquetío Indians were calculated to live in the region (ca. 140/150 villages). Paraguaná was divided in the beginning of the sixteenth century into two territories: the Amuayes who controlled the southern part, and the Guaranaos who controlled the northern part of the peninsula (Oliver, 1989:275).

The Indians of Bonaire, together with those from Curaçao, formed an apart Caquetío clan called the 'Indios Curaçaos' (Hartog, 1953:7; Goslinga, 1979:11 and Hartog, 1957:4 in Haviser, 1991:171;). At least two Spanish documents[36] indicate that this distinctive clan lived on Curaçao and Bonaire , and possibly Aruba, but they belonged to the mainland Caquetío (Goslinga, 1979:11 in Haviser, 1987:56). Others think that Aruba was inhabited by a different Caquetío clan than those who lived on Bonaire and Curaçao (Hartog, 1951f:5; Van Meeteren, 1951:5 in Hartog, 1953:1). These Aruban Indians were referred to as *Arubanas*[37] in the mid eighteenth century (Altoaguirre [1768] 1908:192 in Oliver, 1989:256).

The Coastal Caquetío polity contrasts sharply with all other Caquetío polities in the south, because they had a lack of emphasis on militarism, warfare or raiding. They would rather avoid confrontation and flee to another village or locality. This means that when they colonized coastal Falcón, they must have used non-bellicose strategies, by 'demographic' persuasion (sheer numbers), complementary reciprocity with the local residents (symbiosis), etc. However, they did fight against some of the Spanish raiders, but these were rare and unusual (Oliver, 1989:286).

5.2.5 The Barquisimeto-Yaracuy Sphere

The Valley of Barquisimeto is a semi-arid region, but in contrast to the west coast of Falcón and Paraguaná, the rivers provide nearly constant water supplies for irrigation, especially the rivers emanating from the Portuguesa Highlands. The Valley of Yaracuy has a very fertile land for agriculture, because much of the soils abut the floodplain are fairly rich in nutrients, and an adequate amount of yearly precipitation makes it easier to schedule planting and harvesting (Oliver, 1989:254).

The Caquetío settlements in the Valley of Barquisimeto perhaps extended slightly westward to Quibor, in the Valley of Yaracuy. The territorial/political boundaries between the Barquisimeto and Yaracuy Caquetío

[36] One a letter to the king from Governor Fransisco Nuñex Melian and the other is a declaration by a Curaçaoan native, which was made in 1635 in Caracas.

[37] In 1607, a report signed by the *cabildo* (city council) of Maracaibo, mentions the Aliles, Toas, Saparas, and the *Arubaes* as Indian groups allied against the Spanish. This report is named 'Información sobre la Nueva Zamora, hecha por el Capitán Juan Pacheco Maldonado', and was published in the 'Relaciones Geograficas de Venezuela'. The Arubaes is a reference of the Indians from Aruba, whom Oliver strongly suspect were Caquetío (Oliver, 1989:209).

are clearly defined by Federmann[38], and characterized by an intervening ‘no-man’s-land’ (Federmann, [1557] 1985; Oliver, 1989:286). In the Barquisimeto Valley there was a high population density, and in one single village Federmann counted ca. 4.000 inhabitants. A total of twenty to twenty three of such villages were found at the edge of the Barquisimeto river, clustered around the watersheds of the Turbio and Claro rivers within the Baquisimeto plateau, and they could gather in half a day some 30.000 warriors. They also had fortified villages, because they were enemies of all the ethnic groups surrounding them; the Xaguas to the northwest and west, the Chipas to the northeast, and the Cuibas in the Highlands of Portuguesa that included the Caquetío of Yaracuy (Federmann, [1557] 1985; Oliver, 1989:287).

The Caquetío of Yaracuy belonged to the same nation, but they weren’t friends of each other, and when Federmann passed through the no-man’s-land, there were only a few abandoned houses in this area (possibly for the last 40 or 50 years). The villages were clusters of three, while others were comprised of a single dwelling. These Indians could gather in a single day some 20.000 warriors, but despite forming one nation, they weren’t under the authority of a single chief. Federmann noted that Yaracuy was as densely populated as Barquisimeto (Federmann,[1557] 1985; Oliver, 1989:293).

The Barquisimeto and Yaracuy polities were in harsh competition for land, space and most probably access to the sea. The boundary between Barquisimeto and Yaracuy was of extreme strategic importance in the communications between the Llanos and the Caribbean Coast. The one who controlled this passage, controlled trade and communications (Oliver, 1989:293).

5.2.6 The Llanos Sphere

In the Llanos Sphere, the agricultural cycle, unless raised fields are constructed, is determined by the rainy season and flooding patterns of the region. The Llanos fall in the rain season inversion, which means that when summer hits the Barquisimeto and Yaracuy areas, it is rainy season in the Llanos (Oliver, 1989:254). There was an extensive Caquetío distribution through the Western Llanos during the first half of the sixteenth century, while this widespread density had been substituted in the eighteenth century by other Arawakan-speaking groups, mainly the Achagua (Oliver, 1989:295). The Caquetíos lived in the Llanos de Cojedes, in Hacarigua (located next to the Cojedes River), further south in the Llanos, and in the Northern Llanos. The Northern Llanos Caquetío extended from the upper Cojedes-Portuguesa basin as far south as the upper reaches of the Casanare, with villages in Curahamara and Itabana. They occupied the upper Llanos ecological zone, abut the Andean piedmont (Oliver, 1989:307-308).

The Indians of Hacarigua were partly Caquetío and partly Cuibas, and nearly 16.000 warriors lived there, while the settlements were along the Cojedes River (Federmann, [1557] 1985; Oliver, 1989:295). The population density was probably comparable to that of Barquisimeto or Yaracuy (Oliver, 1989:307).

[38] He was a German explorer who worked for the Welsers, and was the first European to have contacted the inland living Caquetiíos on his first expedition in 1530-31.

5.3 SOCIAL AND POLITICAL ORGANIZATION

5.3.1 Early Sixteenth Century

The Caquetío were not a single, homogeneous ethnic culture as Steward and Faron (1959) and Sanoja and Vargas (1979) assumed. Linguistically all the Caquetío polities were a single speech community, derived from the same ancestral language. This means that they were historically bound by a common language and a common origin, and the differences between these Caquetío polities developed while they were expanding through different territories, and interacted with different cultures and different environments (Oliver, 1989:183). Oliver (1989) convincingly demonstrated that Steward and Faron's (1959:241-246) assumption that all the Caquetío 'tribes' represented a single culture, Theocratic Chiefdoms, was unwarranted and inaccurate. There were several autonomous Caquetío polities, each with its own unique features of ethnicity and socio-political organization (Oliver, 1989:183).

The Caquetío of Coastal Falcón formed the largest and most complex of all Caquetío polities, characterized by a hierarchical organization of power and authority vested in a supreme or paramount chief. There were local caciques (village headmen/lesser principal chiefs, who were probably the head of a lineage group), the diao or chief of several local caciques who controlled smaller territorial/socio-political units (*cacicazgos*), and the overall paramount chief (also diao) who was the top of the hierarchy, which is also reflected in the treatment of the dead (Oliver, 1989:277, 305). They had an elite class social structure consisting of a noble class of distinguished warriors and another class of rich men, and individual shamans (*boratios*) for each village. (Hernández de Alba, 1948:472).

Chiefs of first and second-order were polygamous, with patrilocal or maybe uxorilocal postmarital residence, which was a way to increase the household size, economy and chiefly power (Oliver, 1995:21, 280). Of the relationship between the different wives of one man, little is known. Generally the first wife, who became the maid in her father in law's house, was the highest ranked wife. The man changed of woman each month (Hartog, 1953:11). The paramount chiefdom was not without some checks and balances (by a form of council of chiefs) on authority and power (Oliver, 1989:279-280).

Each sub-group of the Paraguaná Caquetío (*Amuayes* and *Guaranaos*) had its own beach heads, entitling them to specific fishing grounds, and probably the inland plots were equally well defined. Unfortunately, we don't know more specific details of how these catchment zones were distributed, managed or controlled within each sub-group (Oliver, 1989:275).

The villages were bound together in a higher-order level of organization by the mutually exclusive territorial rights between the Amuay and Guaranao. Within each supra-village group there were close kinship and/or alliance ties, with a single higher-order chief representing the political authority for the set of villages and territory that comprised the Amuay and Guaranao. These sub-groups were integrated at a

higher level of organization, that of the Coastal Caquetío polity, under the control of an higher ranking chief (overall chief) which at the time of Contact was Manaure (Oliver, 1989:276).
This means that each village was headed by a local cacique or headman, whose leadership and authority was limited to his village, and probably to some other villages with whom he established bonds of alliance (e.g. inter-marriage alliances, strong kinship ties). A higher-order chief probably accumulated enough status through charisma and kinship ties to become a diao or a chief who had local village headmen under his leadership. The type of intra-polity boundaries of Paraguaná also existed throughout the coast of Falcón (Oliver, 1989:277). When it came to public works, there was a higher level of inter-village cooperation and organization; there is evidence that some four to five thousand Indians were required for the maintenance of an irrigation canal, which means that more than 30 villages were involved (Oliver, 1989:274).
Of the Caquetío settlements in the Peninsula of Guajira, sixteenth century chroniclers suggest that they were mainly settlements of Caquetío middle-men (Oliver, 1989:493).
The Barquisimeto Caquetío had a dual authority, a power structure depending on whether or not they were engaged in warfare; 'peace' versus 'war chiefs'. In times needing a war chief a more hierarchical arrangement with more authority was present (hierarchical and centralized) than when a peace chief was in control (non-hierarchical and dispersed) (Oliver, 1989:183-185, 290-292). This means that the Barquisimeto Caquetío had no paramount chief, but a Peace Chief and a War Chief. The Peace Chief could redistribute the most wealth in the form of maize, maçato, manioc and legumes, back to the community in exchange for labor services in the fields. The one who could be most gracious and lavish in dispensing corn beer, was considered the most esteemed peace leader. But he also had to be a good example; he had to be a hard worker. He had to have the means to accumulate larger stocks of maize and manioc, enough to be able to later distribute back to the community. He couldn't retain economic wealth, otherwise he would lose his influence and authority. A statement said in peace-time was that they did not have one single 'lord' governing them (Oliver, 1989:291-292).
The War Chief society was hierarchical and the ranking was achieved through militaristic deeds, and authority became more centralized. Oliver states that there are some vague resemblances with the Melanesian "Big Man", and also with the "Big Man" of the Kalina (Kalinago) (*ibid*.). The Caquetío warriors of the Barquisimeto-Yaracuy Sphere were ranked according to their achievements in warfare (Oliver, 1989:290). Their villages were not confederated or allied among themselves, but Federmann mentioned that two, three or four villages formed small confederations, but their nation wasn't dominated by one cacique (Federmann, [1557] 1985; Oliver, 1989:288).

The Caquetío of Hacarigua shared the same settlements as the Cuibas, which implies a system of social organization allowing the integration of two different ethnic and linguistic groups into a single socio-political system. Probably it had a social organization much like the Tukanoan-Arawakan (and Makú) of the Northwestern Amazonian area, and were probably organized into either a series of simple and/or compound

exogamic groups (Oliver, 1989:296, 307). The Hacarigua chief was Caquetío, and he embodied both peace and wartime chief responsibilities (Oliver, 1989:307). Due to the lack of detailed information about the Caquetío polities living south of the Hacarigua territory, they are difficult to reconstruct (Oliver, 1989:299, 308). Probably a different type of intra- and inter-village organization existed, such as the Caquetío of Cohaheri who lived in symbiosis with the Guaycarí. The Caquetío of the Northern Llanos lived in monoethic and monolinguistic villages, but had developed a strong symbiotic relationship with other ethnic groups, like the Guaycarí. They had slaves (*naborias*), which were bought and sold, and were war captives or children and women abducted from their villages. The fact that these slaves were found in Itabana, combined with the larger network of allied villages under a Caquetío chief, suggests that there was a certain degree of social stratification (Oliver, 1989:299-300).
The Caquetío and Guaycarí lived in the same territory, but they maintained different settlements. Their chiefs were of limited authority, but were able to maintain alliances extending beyond the local village. In wartime the chiefs were able to call upon their alliances like the Guaycarí, who had their own war chiefs. The military leadership between the Caquetío and Guaycarí was a matter of collaboration, and was less centralized than the Barquisimeto Caquetío. According to the behaviour of the diao of Curahamara and Itabana, it's clear that military and secular leadership was embodied in the same Caquetío leader, while non of these chiefs had shamanistic powers (Oliver, 1989:308).
The nature of the chiefdoms of the Caquetíos of the Llanos Sphere remains difficult to reconstruct, it may have been of the same kind of the Barquisimeto Caquetío polity (War Chief versus Peace Chief). That the villages were confederated at war time, doesn't imply a hierarchical, centralized power like the Coastal Caquetío (Oliver, 1989:300).

According to Haviser, many of the cultural traits of the mainland (Coastal) Caquetío suggest a more advanced socio-political complexity than with the Ceramic Period (Age) of Auba, Bonaire and Curaçao, which could be considered as the Formative Age (Rouse, 1986:148; 1992:19), which means that they were on the verge of civilization (Haviser, 1987:56, 142).
Given these facts it's obvious that the so-called Theocratic Chiefdom of Steward and Faron (1959), and the pseudo-Marxist variant of Sanoja and Vargas (1979) can not be applied to all the Caquetío polities (Oliver, 1989:294, 305). That's why the Caquetío polities must be differentiated into: 1. The Coastal Caquetío polity, 2. The Barquisimeto Caquetío polity, 3. The Yaracuy Caquetío, 4. The Hacarigua Caquetío polity, and 5. Other Llanos Caquetío polities (Oliver, 1989:305-308).

5.3.2 The Great Manaure

All the head chiefs of the Coastal Caquetío had very much religious power (sacred leadership), having the capability to increase the fertility of crops and to control natural phenomena. Manaure, who was the cacique supréme in the beginning of the sixteenth century, was also attributed divine or magical power (shaman) to

control nature and make crops fertile, and to predict natural phenomena. He was ceremoniously carried in a hammock which was decorated by the lesser chiefs or diaos (Hernández de Alba, 1948:472, 474). According to Oliver (1989:278) he was always carried by a retinue of Indians, which were probably his naborias (personal "servants"). His bodily ornaments (e.g. gold, shellbead necklaces) and the special treatment distinguished him from the lesser chiefs and his subjects (*ibid*.).

Other chiefs mentioned by the Germans who first contacted the Caquetíos in the early sixteenth century are Badujara, Categue, Catimayagua and Geeoagúa (Castellanos, 1852 in Hernández de Alba, 1948:472).

Manaure was the son of Caujarao and Benkela, and had a sister called Ayurami. He had an aunt named Arayu (sister of Caujarao), and an uncle named Bacoa, who was the cacique of Cabure (Mansur, 1979:114). When he became the supreme chief, he expanded his authority through marriages, by himself and his children to surrounding Caquetío chiefly families. By 1525 he had expanded his political control over most of Northwestern Venezuela, the adjacent islands and adjoining territories (Beaujon, 1982:49 in Haviser, 1991:172; Oliver, 1989:280).

Manaure had various wives from different provinces, of whom Doña Sancha is mostly mentioned by the Spaniards. Spanish documents indicate that Manaure was also married to a Carib woman ('daughters of the Caribs', widening his influence beyond his own ethnic and political boundaries), but Oliver thinks that this was more likely to be a woman from the Jirajara nation, identified as Caribs due to their fighting nature (Oliver, 1989:281-282).

Manaure had at least three sons (Baracaicoa, Guanipa, Guarecuco) and four daughters (Judibana, Yramayi, Cuabana, Yanira) from different wives, of which two marriage alliances were very prominent. Judibana[39] was married to a cacique (or at least a principal man) from Hurihurebo, the cacique of Paraguaná, and would later be a major Caquetío rebellion instigator[40].

[39] She was called Juana Manaure de García by the Spaniards (Haviser, 1991:172).

[40] However the Coastal Caquetío were known as pacific people, and preferred to flee from the conquistadores than to fight them (Hernández de Alba, 1948:470).

Cuabana[41] married Juan Antonio Martínez de Ampués, son of the Spanish Factor of Aruba, Bonaire and Curaçao, Juan Martínez de Ampués (Beaujon, 1982:49 in Haviser, 1991:172). Manaure's eldest son Baracaicoa, would inherit his fathers throne at about 1534-1537, and was called Don Alexandre by the Spanish (Oliver, 1989:265).

The village where Manaure lived, called Todariquiva, was the center for political authority of the Coastal Caquetío nation. It was probably located in the Coro[42] area, one or so leagues from Coro, but the exact location has not been identified yet (Ramos, 1978 in Oliver, 1989:269; Beaujon, 1982:16 in Haviser, 1991:172). Oliver thinks that it is located within the urban expansion of modern Coro, or further beyond the 4.5 - 6 kilometers suggested by the chroniclers (Oliver, 1989:269).
As we already know, in 1527 Manaure signed a treaty with De Ampués (the father) for the protection of his people, as even one of his daughters was captured. Before this he sent caciques (like Baltasar of Hurihurebo) to Aruba and Curaçao, and even to Hispaniola to meat people of De Ampués (Oliver, 1989:277).
After Manaure had retired (ca. 1534-1537), the chiefdom was left to his son Don Alexandre. It is told that when Manaure saw that he couldn't protect his people anymore against the brutalities of the Germans, he left together with some of his most loyal men, to the Llanos, never to return (Mansur, 1979:115; 1981:15). When Manaure died, one of his sons called Don Juan, married his wife (carnal or classificatory) (Oliver, 1989:280).

Until the end of the sixteenth century, the inheritance of the chiefdom is picked-up again by the documents, when the Crown recognized Don Sancho Uriacoa as the paramount chief. He in turn was succeeded by his son Don Luis Caguallo, who in 1638 abdicated in favor of his brother Don Luis Martínez Manaure. He was succeeded by his eldest son, Don Domingo Martínez Manaure, even though the Alcaldes of Coro did not receive the confirmation until 1742 (Oliver, 1989:265-266).
Martí obtained information from the Caquetío of Paraguaná about debates on the issue of inheritance of the cacicazgo and the title role of paramount chief:

"Here in all the towns of this Peninsula there was a cacique, who was also chief of the villages of Caçicure. The father of the present cacique of all the villages of Caçicure left to Spain and married a Vizcaína. They came back as husband and wife, and had many children. The husband died, and the widow returned to Spain. The elder son took onto himself and is in possession of these villages of Paraguaná, but these Indians resisted and obtained from the Audiencia of Santo Domingo a provision whereby they would be freed, until this cacique could prove the legitimacy of the cacicazgo of these villages…They claim that this cacique's legitimacy does not come from his ancestors, but from bastardy… The *reyezuelo* or cacique, in times of the gentile, was called the great Manaure" (Martí, 1969: 94-95; translated by Oliver, 1989:265).

[41] She was called Inés by the Spaniards (Haviser, 1991:172).
[42] The Caquetío word for Coro was Curiana, distinguishing it from Manaure's residence (Arcaya, 1926 in Haviser, 1991:172).

Don Domingo Martínez Manaure, who had married the Spanish lady, was the father of the bastard Don Juan Basilio. Don Juan Basilio claimed the villages of the territory of Caçicure, which comprised the land between Coro and Borojo, probably as far west as Casigua (the western semi-arid coast area of the coastal plains of Falcón). He also claimed to become cacique of Santa Ana, Moruy (Paraguaná), Río del Tocuyo and Cumarebo. The villages claimed by Don Juan Basilio in the eighteenth century, were among those already existing at the time of Contact, and covered the same expanse that Don Martín Manaure had controlled at the time of Contact (Oliver, 1989:266).

5.3.3 The Colonial Period

The Spanish thought that by controlling Manaure, they would control all of his subjects, a tactic (controlling the Head of State) which had already been successfully applied in their process of Reconquista against the Moors, as in the conquest of the Canaries Islands. However, in the New World this tactic was only successful where societies had a more centralized power and political/economic administration, and where the concepts of victory and defeat were more similar to those held by the Spaniards (e.g. the Inca and Aztec Triple Alliance). The Spanish thought that the Coastal Caquetío was such a polity and their plan nearly worked, but not for too long (Oliver, 1989:254). The 'Laws of the Indies' (ca. 1530) allowed the Indians to have their own cacique, but under Spanish supervision (Haviser, 1991:173).

During the Welser period (1528-1546), the most ambitious expeditions took place of true penetration into the continent. Alfinger, Federmann, Hohermuth, and Hutten traveled from Coro south into the Llanos as far as the Upper Caqueta. These Germans and their Spanish accomplices were credited with the most brutal devastation of the native societies everywhere they went. The constant depletion of Caquetío Indians as slave-porters in these expeditions was to thoroughly erode the economic (agriculture, labour) base of the Spanish *vecinos* (citizens, residents) of Coro (Oliver, 1989:260). As a result, the *alcaldes* (mayors) rebelled against the Welser governors (as early as 1534), for Coro and its vecinos were literally in miserable poverty, and famine threatened their existence (Ramos Pérez, 1976:232 in Oliver, 1989:260).
A series of *Juicios de Residencia* (Judgement in Residence) were implemented between 1538 and 1554, and all the court transcripts and documents of the period between 1538 and 1546 demonstrate the extent of the Welser crimes and abuses against the Indians and the vecinos of the Spanish villages, and also the violations of the accords established in the *capitulaciones* (Oliver, 1989:260-261).
Ballesteros noted that in earlier times the Coro area was populated by fourteen or fifteen thousand Indians, while in 1550 he only found six villages of Caquetíos around Coro inhabited by up to four hundred Indians (Becker, 1950:666, 688 in Oliver, 1989:262). De Tolosa stated that the area between Borburata and Coro was nearly depopulated with no more than hundred souls living, and the area following down the coast (west) toward the Maracaibo Lake was also depopulated. On the Peninsula of Paraguaná no more than hree

hundred Indians were counted, while in the Valley of Barquisimeto there was a medium-sized population (Arellano, 1964:1-14 in Oliver, 1989:262).
In 1542 enslavement of Amerindians was forbidden, with fieldwork limited to males over twelve years old, for only three days a week (Haviser, 1991:173). In practice however, most of these laws were ignored in the Spanish colonies, and consequently these laws had to be revised, resulting in new laws such as in 1676 when the Indians were freed from personal service and in 1686 when the Indian women were freed from labour (Moron, 1964:47 in Haviser, 1991:173).

The repartimientos in Falcón were not numerous, and they seem not to have had a major impact in coastal Falcón. In Barquisimeto and El Tocuyo, the first attempts to set encomiendas were successful, and the transition period of unrest and unbridled conquest gave way to the relatively more settled and truly Colonial Period, focusing on municipal concerns affecting the vecinos (Oliver, 1989:262-263).
In about 1545 the encomienda system property tracts were issued on the Venezuelan mainland, and in 1562 there were twenty in the vicinity of Coro. This system stated that the Amerindians living on Crown property were obliged to work for the Factor or Administrator of that property (Beaujon, 1982:62 in Haviser, 1991:173).
The Caquetío of Coastal Falcón were protected, first as *Indios libres* and later as *Indios de Real Corona*, while all the other ethnic groups in the Province of Venezuela were subject to repartimiento in encomienda. The Indians distributed by Juan de Vallegas in 1542, included the Caquetío of Barquisimeto, Yaracuy and the uppermost course of the Cojedes (Oliver, 1989:263). Of the other Caquetío groups, many fled to the forested region of the interior, and probably weren't incorporated into the system of encomienda (Steward & Faron, 1959:244).
In the beginning of the seventeenth century, the diao of the Caquetío lost almost all his power, and when mentioned was only called by his Spanish name. The caciques designated to the Amerindians, including Curaçao and possibly Aruba and Bonaire, were more a token of gesture of compliance with the Law of the Indies (Haviser, 1991:175).
In 1671 the system of *misiones* and *doctrinas* was introduced, especially for the more rebellious Indians, and came under the jurisdiction of the Archbishopric. The Llanos came under the jurisdiction of the Jesuits of Nueva Granada (Colombia), and Barquisimeto and Yaracuy were under the jurisdiction of the Franciscans. Coastal Falcon remained "silent" with regard to these missionary activities, because the Caquetíos were neither encomendados nor rebellious, but free Indians of the Real Corona (Oliver, 1989:264).

Between 1773 and 1782 Bishop Mariano Martí collected a census of the Jurisdiction of Coro. The coast of Falcón and Paraguaná had a total of 4.785 Caquetíos living in Cumarebo (67), Carrizal (455), Guaibacoa (215), Mitare (374), Zazárida (276), Capatárida (596), Borojó (133), and the villages of Santa Ana (1.866)

and Moruy (783) in Paraguaná (Marti, 1969 vols. 1,2,6 and 7 in Oliver, 1989:263). Oliver suspects that the total amount of Caquetíos could have been up to 6.000 or 7.000, based on the fact that the figures don't include the 5.823 inhabitants of Coro among whom he suspects there were Caquetío Indians, and also the census doesn't include the Indians who lived outside the mentioned villages. This means that two centuries after the Welser genocide, the Caquetío population of Coastal Falcón increased at a healthy level, however it didn't reach the level of the late 1520's when the population was estimated to have been between the 10.000 and 15.000 Indians (Oliver, 1989:263).
In the Valley of Yaracuy two villages, Chivacoa (956) and Urariche (451) added 1.407 Caquetíos to the total amount of the Caquetío Indians, elevating the population figures to 6.192 Caquetíos. Other censed Indian populations where Caquetíos used to live, represented a mixture of ethnic groups or its inhabitants were mostly non-Indian (Oliver, 1989:264).

When Venezuela gained Independence in the 1820's, the policies set up by Simon Bolivar and the new government, were geared toward the integration of all inhabitants of the Republic. The first thing they did was the legislation that emanated from the previous colonial administrations, including the Caquetío status of Indios de la Real Corona, because it was against the ideal of national integration. Once the semi-autonomy of the Caquetío villages was eliminated, the last few barriers for national integration of the Caquetíos were gone. This means that, despite the Spanish conquest, the Caquetío had survived until the 1820's, and presently the achievements of this great nation can only be seen in a few material items, like some pottery vessel forms, *maure* textiles, and hammock weaving, and in the rich Caquetío toponyms found throughout the State of Falcón and on Aruba, Bonaire and Curaçao (Oliver, 1989:267-268).

5.4 RELIGION

The Caquetío had community temples, but kept idols in individual households, while some of the chiefs (Coastal Caquetío) shared religious power with shamans (Steward & Faron, 1959:245). The principal gods of the Caquetío were the sun and moon, to whom the shamans, who acted in the capacity of priests, made offerings, and each shaman made offerings to the deities, foretold the future, cured the sick (herbal curing was also practiced) and predicted the outcome of battles. The services of the shaman were generally paid for with golden ornaments, while during sessions he smoked tobacco (Hernández de Alba, 1948:474).
There is an account of the city of Nueva Segovia which tells that the Barquisimeto Caquetío and Jirajara offered a ten year old girl to the sun to obtain rain for their fields. The girl was bought from her mother, decapitated with a stone knife on the bank of a river, and her blood offered to the Sun (Antolínez, 1943 in Hernández de Alba, 1948:474; Steward & Faron, 1959:245). This offered girl represented a wife for the Sun, and if the offering was not done, the Sun could get upset and then it would not rain (Arellano Moreno, 1964 in Oliver, 1989:289). The human sacrifice of a young girl of ten years or older, possibly happened on

a yearly basis (Hartog, 1950b:3; Hartog, 1953:14; Oliver, 1989:290). Steward and Faron (1959:244) think that the sacrificed human beings were possibly war captives.

When a Caquetío noble died (lesser caciques; local village chiefs), the people gathered in his village lamenting his demise and praising his good deeds. They desiccated his body in a hammock over a low fire, cleaned his bones, grounded and mixed it with maçato and drank it (endo-cannibalistic drinking).
When a diao (second-order and paramount chiefs) died, the desiccated body was put in a new hammock (a sort of mummification), under which a wooden image or figure of him was placed, and then the house was abandoned. It was the son or successors job to renew the hammock when it became old, and when the bones fell apart, the whole tribe was assembled, and during three days the people would be adorned with paint and all their ornaments, consuming the porridge of the ground up bones, and burning the wooden image (Oviedo y Valdés, 1852, 297-300 in Kidder II, 1940:14-15; Oviedo y Valdés, 1944 in Oliver, 1989:283-284; Hernández de Alba, 1948:473; Steward & Faron, 1959:243).
The two-plus level hierarchy of leadership is clearly shown in the disposal of the dead; one mode is reserved for the local village chief, where the cacique's guests are from neighbouring villages, while the more elaborate form is reserved for a higher-order chief, where the guests come from the *señorío*, which implicate an even wider network of individuals who are obliged to participate (reciprocate) in the funeral rites (Oliver, 1989:284). The first type of burial would leave no records, as the body is burned, while the second type of burial can be correlated with secondary burial urns with semi-disarticulated nearly complete bodies with only a few selected bones missing, or those showing longbone bundles or skull (*ibid*.).

5.5 SUBSISTENCE

The Caquetío were intensive farmers of maize, manioc, and sweet patatoes in plantations in the interior. They ate a boiled maize soup seasoned with ají or chili peppers called *caza* (maize was prepared in various ways) and ate cactus fruits or *datos*, while maguey was used to produce an intoxicating drink, *fique*, possibly similar to pulque. (Hernández de Alba, 1948:470, 473; Steward & Faron, 1959:242). According to Hartog (1953:10), they also ate bananas, melons and watermelons. It is reported that the Indians of the Caracas area cultivated maize, sweet patatoes, beans, tubers, fruit and coca (Oviedo y Valdés in Van Heekeren, 1963:22).The Caquetío had an acute awareness of the seasonality of wild fruits, because their time concept was based on the ripening of specific wild fruits, rather than on astronomical phenomena (Hernández de Alba, 1948:474).
Deer, tapirs and other game formed an important part of the diet of the Caquetío. These animals were killed with the bow and arrow, or by surrounding them with fire (Hernández de Alba, 1948:470; Steward & Faron, 1959:242). There's no evidence that the Caquetío had domesticated animals (Haviser, 1987:56).
The music instruments they used were horns and shell trumpets, which were accompanied with songs on occasions such as funerals or attacks during a battle. They made thread of cotton or other fibers and

sometimes dyed red, it was used for the genital covers, hammocks, carrying-bags (*mochilas*) and for objects which were called *cataures*. The Caquetío also had ceramics which amongst others consisted of cooking pots, jars and storage vessels. (Hernández de Alba, 1948:472).
Caquetío men wore calabash penis covers (gourds), while women wore woven genital covers (short apron). Body ornamentation consisted of red and black paint, tufts of feathers, facial designs, diadems for chiefs and nobles (elite), golden earrings and, especially among the Caquetío of the maritime region of Paraguaná, pearl bracelets (Hernández de Alba, 1948:471). Ornaments were worn in nose, lips and ears (Oviedo y Valdés in Van Heekeren, 1963:22). Biomorphic golden nose and earplugs, bracelets and necklaces were worn by the more noble of the Caquetío. While they also had necklaces made of stone (greenstone?) (Oliver, 1989:218). Necklace beads (stone and shell) were the most ubiquitous items and had a "fixed", artificially determined value. The three types of necklace beads were the *boroyda,* the *mamas*, and the *querequetero* or *quitero*. These were almost like a monetary system, and their value was measured by 'ropes' or length of the necklace and the size of the bead (the smaller the bead and more detailed craftmanship, the higher the exchange rate). The Spanish adopted the shell-bead exchange system to trade in agricultural products with the Caquetío, as well as in re-exchanging the beads for gold adornos (Oliver, 1989:285).

The Caquetíos of the Coro area were described by Federmann as tall and pleasing-looking people who had short hair (Federmann, [1557] 1985; Hartog, 1953:9; Van Heekeren, 1963:22). The Yaracuy Caquetío were described as rich, good proportionated and the women very beautiful, reason why Federmann called this 'The Valley of the Ladies' (Federmann, [1557] 1985; Oliver, 1989:288). In a letter from 1504, Vespucci described the Bonarian Caquetío as bestial and ugly, chewing green grass, and around their necks they had two dry gourds, one filled with this green grass, and one filled with a white powder (Martir, 1966:115 in Haviser, 1991:167). The women didn't chew this grass, and probably their gourds were filled with water (Levillier, 1951:326 in Haviser, 1991:168).
The warriors of the Barquisimeto and Yararacuy Caquetío were ranked according to their achievements in warfare, and were distinguished from each other by specific dress codes and bodily adornos. They tattooed their bodies, starting from their fingers, to their elbows, arms and shoulders, and then from the waist to their belly, chest, neck and all the face, each step representing a higher rank. The highest achievable rank was that of a 'brave captain', wearing a headband of tiger fur, and a necklace of human bones (Oviedo y Valdés, 1944 in Oliver, 1989:290). The weapons of the Caquetío were clubs (*macanas*; heavy wooden swords), and bows and arrows (which were not poisoned) with bone, wood or tooth projectile points (Kidder II, 1940:14; Hernández de Alba, 1948:472-473; Van Heekeren, 1963:22). According to Haviser they also had spears (1987:56).

The Caquetío traded extensively in salt and tobacco, especially with the Curarigua, Jirajara and Nirgua. Salt, of which they had abundant supplies, they traded inland; the Barquisimeto Caquetío traded salt with the Xaguas, but were their enemy. They furthermore traded maize and other products for fish with the Quiriquire, while they also traded among themselves (Henández de Alba, 1948:472; Kidder II, 1940:14). Possibly the Caquetío traded coca leaves with the Curiana peoples on the eastern Venezuelan coast (Haviser, 1991:167). The Coastal Caquetío were known for their long distance trade. They had to obtain gold, which were indicators of status, from trade with either the Jirajara of the Nirgua-Buria Highlands, or from the Coanoa in the Valledúpar-Ranchería area (Oliver, 1989:218, 285). The Caquetío of the Western Sphere were associated with the Coanoa and with the Wanebucán, with whom they traded and of whom we know that they traded gold items (Oliver, 1989:202). The Hacarigua Caquetío traded their fruits (crops) and other foodstuffs for the fish of the Guaycarí, who were specialized fisherman and probably were related to the Carib-speaking Guaycarí of Margarita Island (Oliver, 1989:297).

The Caquetío used dugout canoes[43] (*cayuco*), which could transport three or four persons, for traveling and carrying their goods. They were known to be very good navigators of the coast and lake, and even became handlers of cargo and were engaged by the Spaniards for the transportation of goods from the coast to Barquisimeto and Nueva Segovia after the Conquest (Hernández de Alba, 1948:471-472).

The Caquetío were obviously excellent traders, for they even had frontier settlements (e.g. Guajira) to supply Falcón with exotic goods (Oliver, 1989:285). The Caquetío settlements in the Peninsula of Guajira continued until after Contact time, trading maritime goods (salt) for gold, greenstones and other exotic materials obtained from the Tairo, Coanoa and other Northeastern Colombian groups, directly to Coro via the Dutch Leeward islands, a trade network which was interrupted by the Spanish-Welser Conquest (Oliver, 1989:492-493).

5.6 SETTLEMENTS

The Coastal Caquetío villages were amongst others, Cacicare, Cacorida, Carao, Carona, Care/Cati, Caujarao, Cayagua, Cayerua/Coyarna, Cumarebo, Cuzizibana, Capatárida, Guaibacoa, Hurehurebo/Hurihurebo, Hurraqui/Hurraque, Miraca/Myraca, Paraguacho/Paraguachoa, Tomodore, the already mentioned Todaquiribo (Todariquiba) where Manaure lived, the village of Santa Ana, Sarasaragua and Zaceriba/Zazárida (Hernández de Alba, 1948:472; Oliver, 1989:269-271) (*fig. 38*). *Caciçure* (from Proto-Northern Maipuran *kasik*: 'headhouse') was the term used to refer to the western semi-arid coast area of the coastal plains of Falcón, and probably means 'place of habitation' or 'homeland' (Oliver, 1989:272).

[43] On Aruba there were no trees big enough to make canoes, reason why they must have been imported from the mainland, or the trees were brought to Aruba where they were manufactured into canoes.

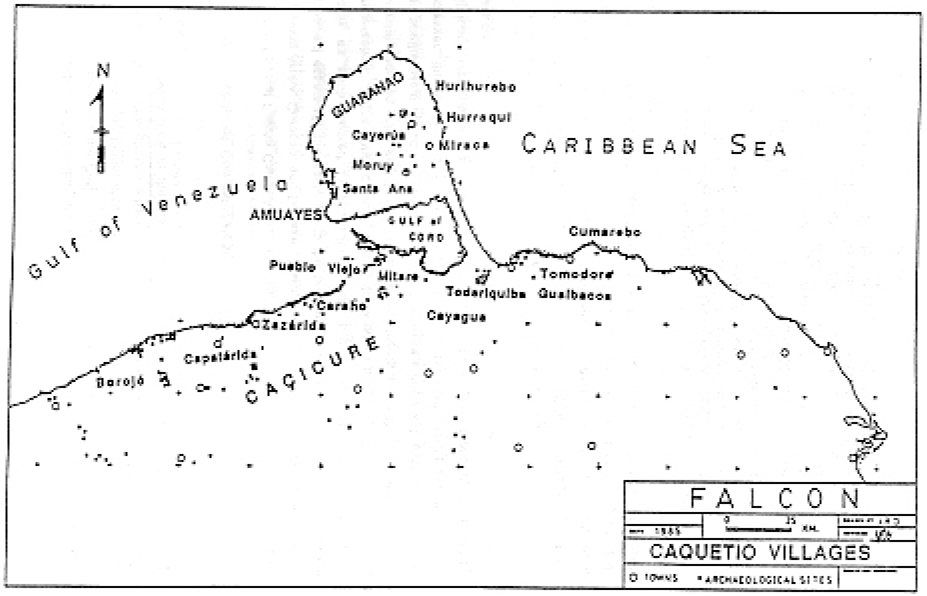


Figure 38. Location of Caquetío Settlements in the Sixteenth Century (after Oliver, 1989:270).

The villages of the Coastal Caquetío were medium-sized, with about 200-500 inhabitants, didn't have defensive constructions, and don't seem to be clustered together (nucleated), but rather dispersed over a fairly wide territory. This doesn't mean that all Caquetío villages were of medium size (Oliver, 1989:272-273, 306). There was a separate house for the shaman or *piache* (boratio) in each village (Arellano Moreno, 1964 in Oliver, 1989:289). The Coastal Caquetío developed water resource management technology in the form of irrigation canals (Oliver, 1989:273).

Oliver (1989:275) thinks that their villages were probably organized into something like the Taino cacicazgos: a set of related villages within spatial boundaries. Intervillage alliances along with the territorial boundaries were probably determined by a combination of marriage alliances and kinship ties.

Coastal Caquetío house structures on the mainland were never described in any detail by the Spanish chroniclers, and sometimes were referred to as *ranchos* (Oliver, 1995:19). Domestic dwellings of these Caquetío were capable of housing an extended family of 40 to 50 people (malocas) (Oliver, 1989:306). The houses were rectangular huts made of poles, vines and grass. They were grouped in two's or four's, preferably near their cultivated fields, to be able to protect them against dangerous animals. Paths connected the villages with each other and with the cultivated fields (Hernández de Alba, 1948:471; Steward & Faron, 1959:242-243). Coastal Caquetío towns, such as Mitare, kept their maize fields in the piedmont some ten to fifteen kilometers away, which imply that houses and silos were probably constructed nearby the fields and intensively occupied during planting and harvesting, but largely unoccupied during the fallow period (Oliver, 1995:22).

Vespucci mentions in one of his letters in 1500 to De Medici, that when he was on Curaçao or Bonaire (it's not clear which one), he visited a village some two leagues inland where there were five (Quator

Navigationes [1500-1509]) or twelve (Lettera [1500]) houses inhabited by giants (Levellier, 1951:271 in Haviser, 1991:166; Oliver, 1989:256). Possibly one of these houses could accommodate 36 men, 5 women and all the Spanish that came to the island with Ojeda, possibly between 40 and 50 individuals (Oliver, 1989:256, 275; 1995:19-20). If Vespucci's story is true and the structure was located on Curaçao, it could either have been a large multifamily dwelling or a local chief house, which was not only a domestic dwelling, but also had the function of a council-house or the village's meeting place for communal decision-making (Oliver, 1995:20).
Federmann mentioned one house made on piles, however, located on dry land, while we know that the Quiriquire who lived on the shores of the Maracaibo lake, built pile dwellings over water or land (Federmann, [1557] 1985; Kidder II, 1940:14; Hernández de Alba, 1948:470). Vespucci mentioned pylon-dwelling structures located in the Puerto de San Bartolomé (Golfete de Coro), which were similar to the structures of the contemporary Paraujano, and probably belonged to specialized fisherman whose relationship with the Caquetío inland settlements is still undetermined (Oliver, 1989:256, 274).

Federmann described the Yaracuy villages as being very large, of a variable density, sometimes having the extension of one mile, with one or two streets at most. The houses of these villages were arranged in rows and faced each other on opposite sides of a wide street (Hernández de Alba, 1948:470-472). A house was inhabited by five, six and up to eight different families with their men and children. Such a house could have had up to 40 residents (Federmann, [1557] 1985; Oliver, 1989:288, 292-293; 1995:20). The shamans of the Yaracuy Caquetío lived in a separate house outside the village (Arellano Moreno, 1964 in Oliver, 1989:289).
The interior of one of the houses of the Yaracuy Caquetío described by Federmann contained a wooden platform, or *barbacoa*, well above the floor where the maize was stored. This house had to have been a large structure, because a short battle took place between Federman's soldiers and the Caquetío, reason why Oliver thinks that this was a house of the village's chief (Oliver, 1989:288; 1995:20).
The Indians who lived near Barquisimeto had an irrigation system in which water was diverted from the rivers and directed to the fields (Henández de Alba, 1948:470). Federmann ([1557] 1985) noticed that the (fortified) villages of the Barquisimeto Caquetío were probably clustered together because of defensive practices, while Oliver added that effective agriculture and more than adequate food production promoted a population increase that created even higher demands on a limited prime agricultural land (Oliver, 1989:287). The Barquisimeto and Yaracuy settlements had between ca. 2000-4000 inhabitants (Oliver, 1989:294).

Federmann had difficulties trying to explain the Hacarigua settlements. They extended at least some 3.7 kilometers, and he said that Hacarigua was in reality not a single village, but several localities similar to villages, situated near to each other (Federmann, [1557] 1985; Oliver, 1989:296-297). According to Oliver,

the Hacarigua settlement pattern was clearly a series of malocas along the Cojedes River (Oliver, 1989:307).

In the Laws of the Indies (ca. 1530), it was indicated that the Indians should be collected into village groups, so that they could be easier civilized by the Spaniards, and that the native caciques should be kept together with their subjects in these villages (Moron, 1964:46 in Haviser:173). The Coastal Caquetío got the status of Indio de Real Corona (free from tribute, and protected by the Crown), and the villages were semi-autonomous. The Spanish themselves were prohibited to live there or have houses within a league of the village, and they could only enter the village for Mass or for trade (Oliver, 1989:267). In 1546 the *Licenciado* Juan Pérez de Tolosa wrote a letter to the king of Spain stating that the Caquetío had poorly built houses and slept in hammocks (Hernández de Alba, 1948:471).

After the Welser had raided their villages, the Indians became sort of nomads, living in simple huts, ready to leave when necessary, which is a sharp contrast to the early years of European Contact, when there were a group of inter-related houses, and sedentary settlements were the norm (Oliver, 1989:274).

6. LINGUISTIC BACKGROUND

6.1 INTRODUCTION

By studying linguistic developments (historical linguistics), ancient population movements (migrations) and past demographic processes can be identified, which in their turn can explain questions concerning the cultural ancestry, change and adaptation of Indian groups (Oliver, 1989:53; Rouse 1992:37-42).
By performing detailed lexicostatistical analysis, relationships can be found between different languages, on the basis of comparative analyses of vocabulary lists rather than with syntactic and grammatical features (Oliver, 1989:52). In basic vocabularies the words express ideas that are common to all human beings and therefore are not susceptible to foreign influence, such as the names for parts of the human body and for kinds of geographical features (Hock, 1986:214-216 in Rouse, 1992:38;).
Linguists who study the ancestries of contemporary and well-documented historic languages, are able to work back comparing each language with its predecessors, limiting themselves to basic vocabularies in order to eliminate as many foreign influences as possible in search for words that have the same meaning and are composed of sounds that have evolved one from another in a regular manner. The cognates are used to trace the languages back to the common ancestors, and affirm their results by looking for parallel sound shifts along different lines of descent (Lehman ,1962:63-106 in Rouse 1992:38). When they continue backward along the lines, they ultimately arrive at a *proto*-language from which all the subsequent languages evolved. The lines in a family tree (*stammbaum* or phylogeny) are then arranged and show how the languages successively diverged from the proto-language. This tree is verified against other kinds of linguistic evidence such as grammar. Together the languages within the tree are known as a family, while a family is named by adding the suffix *-an* to the term for a member language. The amount of cognates which is shared by a pair of languages indicates how long ago the two diverged from their common ancestor; the smaller the number, the earlier the time of divergence (Rouse 1992: 38).
When linguists expand the studies of ancestries further back in time, the prehistoric languages have to be reconstructed from the documented ones before putting them in the family tree. The changes in documented cognates are projected backward in time and undocumented cognates are infered from them. In this procedure at each step a cluster of cognates that defines a prehistoric language is established and named by the prefix *proto*- to the term for a documented language in its line of descent (Rouse 1992:39).
Family trees of prehistoric languages only approximate the truth, and are more reliable with speech-communities that became separated by strong geographical or social barriers which prevented them from interacting (*ibid*.). The results of these linguistic studies are then compared (combined) with historical,

archaeological, physical anthropological and biological (teeth, blood group, serological and D.N.A. research) investigations.

6.2 CAQUETÍO LANGUAGE

Northwestern Venezuela was well represented by Arawakan speech communities in the coastal region of the Falcón State and the Peninsula of Guajira. Two of them have survived, namely Guajiro and Paraujano, spoken by the Wayú and Añú peoples. When the first Europeans arrived at this region, a third major Arawakan language was w idely spoken in this area, namely the Caquetío language. This is presently an extinct language, but a lot of toponyms and anthroponyms have survived throughout coastal Falcón (Oliver, 1989:52). Also on Aruba, Bonaire and Curaçao some of these toponyms have survived (Van Buurt & Joubert 1994; Versteeg & Ruiz, 1995). Caquetío was spoken on the islands of Aruba, Curaçao and Bonaire, on the Venezuelan coast, and in the area of the Yaracuy, Portuguesa and Apure rivers; an area presently known as the Falcón and Lara States (Federmann, [1557] 1985). In the sixteenth century there were some words recorded of this now extinct language, however, many terms available in toponyms and anthroponyms were never defined in the chronicles. Of the terms which were defined in the Spanish documents, very few have survived until the present; there are no surviving grammars or dictionaries. The vocabulary items from the various sixteenth century sources show that Caquetío is without any doubt an Arawakan, almost certainly Maipuran, language (Oliver, 1989:158). A tremendous find was the term *kakïtho,* offered by Taylor (1977:82 in Oliver, 1989:166) for the Lokono[44], and glosses as 'people' or 'living beings' that include a wider membership than the more restrictive term *loko.* The Lokono term kakitho is obviously a cognate of the Caquetío term *kaketío*, and both are cognate to Pre-Andean Maipuran terms for 'person'. Piro uses the term *kaxiti* and Irupina *kakiti* to designate 'people', and given the distribution of this term, it is certainly of Proto-Maipuran origin (Oliver, 1989:166; 1990:85).
It has been suggested that the name Caquetío may come from the Caqueta river (Arcaya, 1951:27 in Haviser, 1987: 55). The common misspelling of the Caquetío name as Caiquetio comes from one early Spanish document (Arcaya, 1951:14 in Haviser 1987:55). To understand the ancestry of this language, we must take a look at the history of the Arawakan languages.

6.3 PROTO-ARAWAKAN

In America there were three major linguistic families ('super-stocks') at the time of European contact, namely the Eskimo-Aleut, the Na-Dene and the Amerindian linguistic families (*fig. 39*). This classification

[44] The name of the Arawak (Aruac) linguistic group is derived from the Arawak of the Lokono, an Arawakan language spoken in Guyana.

was first proposed by Greenberg in 1956. The Eskimo-Aleut and Na-Dene languages as separate linguistic families are generally accepted, but the grouping of the rest of the families as the Amerindian languages is not accepted by all linguists (Van Buurt & Joubert, 1994:23).

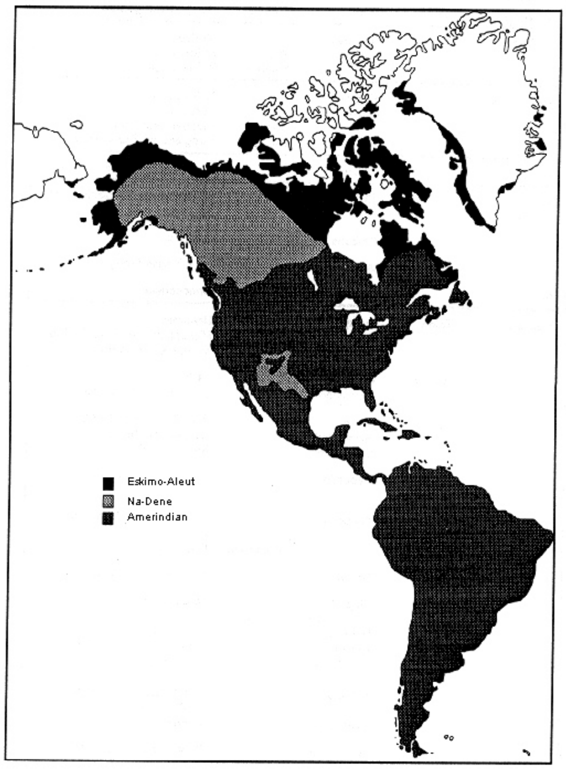


Figure 39. The Amerindian Linguistic Groups (after Greenberg, 1987 in Van Buurt & Joubert, 1994:25).

In 1987 Greenberg classified the approximately 1800 Amerindian languages in six subordinate stock groupings:

<u>Amerindian Super Stock</u>

1. Northern Amerindian
2. Central Amerindian
3. Chibchan-Paezan
4. Andean
5. Equatorial-Tucanoan
6. Gé-Pano-Carib

The Equatorial-Tucanoan sub-group is further subdivided in: a) Macro-Tucanoan; and b) Equatorial.

The Equatorial is further divided into twelve subgroups of which the Macro-Arawakan is important for this research. Within the Equatorial sub-group five more subgroups are proposed of which the Arawakan is of our concern. The Arawakan sub-group is divided into five more subgroupings, namely Arawa, Maipuran, Chapacura, Guamo and Urú (Oliver, 1989:55).

To understand the development of Caquetío within this context, we must go back to the origins of the entire Arawakan family. The Arawakan languages are comprised of the Taino, Guajiro, Maipure and Guahibo sub-groups and have the widest geographical distribution in South America (*table 4*): from the Itiyuro river, Salta Province in Argentina (Chaná) and the Bolivian lowlands (Moxo) to the Bahamas (Taino), and from the Atlantic watersheds in the Guyana's (Lokono) to the eastern mountain areas of Peru (Oliver, 1989:55; Van Buurt & Joubert, 1994:30).

Linguistic Group	Sub-group	Language	Dialect	Geographic Area
Arawakan	Taino	Lucayo		Bahamas
		Taino		Hispaniola, Pto. Rico, Eastern Cuba
		Sub-Taino		Middle Cuba, Jamaica

		Guajiro		Guajiro				La Guajira
				Paraujano				S.E. Guajira, Sinamaica
		Maipure		Igneri				West-Indian island arc up to Vieques
				Island Carib				West-Indian island arc
				Black Carib				Belize, Honduras
				Caquetío				Falcón, Lara, Aruba, Curaçao, Bonaire
				Achagua				Portuguesa, Barinas, Apure, Eastern Colombia
						Amarazina		Eastern Colombia
				Maypure				N.W. Brasil, South Venezuela
				Piapoco				Eastern Colombia
				Guarequena				Eastern Colombia
				Werekena				Eastern Colombia
				Baniva				Amazon Territory of Venezuela
				Mandauaca				Amazon Territory of Venezuela
				Lokono				Coastal area of British Guyana, Western Surinam
				Shebayo				Trinidad
				Wapishana				Southern British Guyana
				Palicur				Amapá (Brasil)
				Marawan				Amapá (Brasil)
				Araua				Marajo
		Guahibo		Gauhibo				Eastern Colombia
						Cuiva		Southern Apure (Venezuela)

Table 4. The Taino, Guajiro, Maipure and Guahibo Sub-groups of the Arawakan Languages (after Van Buurt & Joubert, 1994:26-27).

In the sixteenth and seventeenth centuries the collection and study of native languages were sporadic and unsystematic. Of the documents written in these early decades, none focusing on Arawakan syntax or grammar has survived (Oliver, 1989:54). Linguists began studying and classifying the Arawakan languages in the late eighteenth century, and had two centuries to refine their results (Rouse, 1986:121).

In 1925 Rivet suggested that Arawak originated from Polynesia, but this theory has never been accepted by professional linguists (Haviser, 1991:73). Noble located the Proto-Equatorial language, the original language in the superfamily of that name, at the headwaters of the Amazon River; at the headwaters of the Madre de Diós and Ucayali river in the mountains of Peru and Equador, at about 3500-5000 B.C. (Noble, 1965:107 in Oliver, 1989:77; Rouse 1986:121; Haviser 1991:73). After having revised this hypothesis, Lathrap (1970) and Stark (M.S.) relocated it in the middle of the Amazon river valley, at the conjuncture of the Amazon and Río Negro rivers, at about 3500 B.C. (Rouse, 1986:121; Haviser, 1991:73) This could explain the peculiar distribution of the most divergent Arawakan languages toward the periphery of the Amazon Basin (Oliver, 1989:72). In 1986 Rouse identified the region of Nobles' suggestion as the source of Proto-Equatorial at about 5000 B.C., which corresponds with Lathrap's theory of an Proto-Arawakan origin in the Amazon/Río Negro area (Rouse, 1986:121-123). He then revised his stammbaum of Arawakan families of 1986 to a new one, in which he corporated changes because of the new findings of different linguists (*fig. 40*). The dates have been obtained by glottochronological research; the estimated amount of time for the divergence of each pair of languages from their common ancestor using the lexicostatistical method of Swadesh (1955): t= log . C/ 2 . log R (Oliver, 1989: 110; Van Buurt & Joubert, 1994: 35).

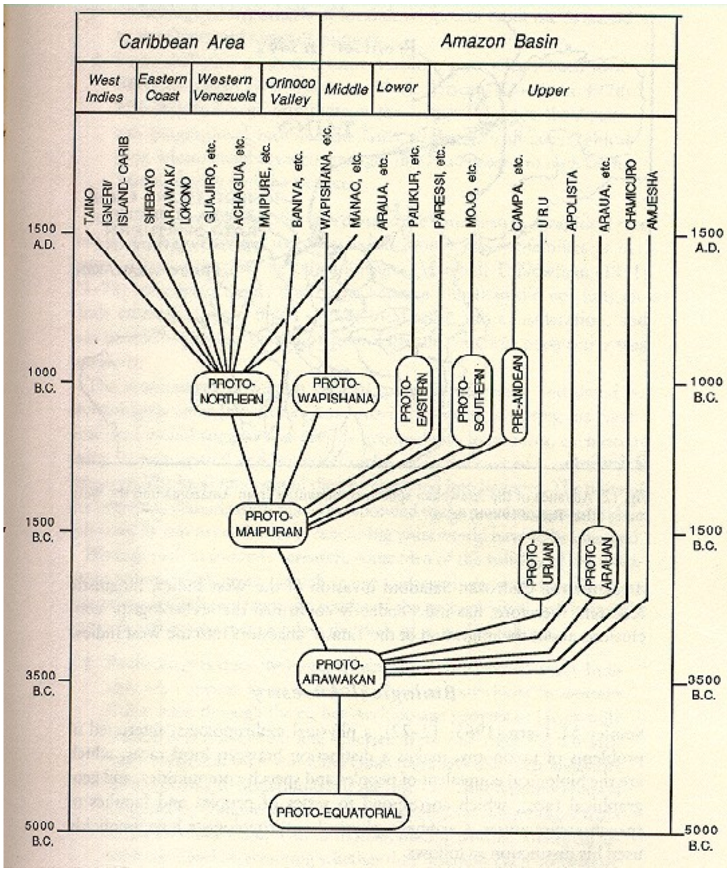


Figure 40. Stammbaum of the Arawakan Languages (after Rouse, 1992:41).

6.4 PROTO-NORTHERN MAIPURAN

Based on the vocabulary items extracted from various sixteenth century sources, Caquetío is without a doubt an Arawakan, almost certainly Maipuran, language (Oliver, 1989:158). Reason why we have to take a closer look at the origins of this language sub-group. The Proto-Equatorial language split into two different family groups, namely the Tupí-Guaraní who migrated to the south, and the Arawakan familiy who migrated to the north. The Proto-Arawakan language arose in the middle of the Amazon Basin at about 3500 B.C., around the junction of the Amazon River and its principal northern tributary, the Río Negro. During the third and second millenium B.C., Proto-Arawakan speakers migrated up both streams, of which the ones going upstreams changed into new speech communities. The earliest of the Proto-Arawakan speakers migrated up the Río Negro, passed through the Casiquiare Canal, and descended the Orinoco River into the Orinoco Basin. As these migrations were taking place, differentiation of the Proto-Arawak language took place, and they produced a new, Proto-Maipuran language, which appears to have originated on the Río Negro. At about 1500 B.C. they reached the Middle Orinoco (Orinoco Valley) near the Meta River, and evolved into various language sub-groups, of wich the Proto-Northern is of our concern, because it’s the

ancestral sub-group of the Caquetío. The different sub-groups produced from the Proto-Northern languages, migrated into various different directions away from the Middle Orinoco, of which some groups moved westward (via the Meta River) into the Venezuelan Andes and Colombia (eventually forming the basis for the Guajiro and Paraujano languages), while other groups moved further downstream on the Orinoco (Rouse, 1986:120-126; Haviser, 1991:74). The latter migrators expanded into the Guianas and the West Indies.Those who settled in the Guianas developed the Arawak language (also known as Lokono), while the ones colonizing the Lesser Antilles developed the Igneri language, which later became Island-Carib. The Proto-Northeners who colonized the Greater Antilles, developed the (extinct) Taino language (Rouse, 1992:40).

6.5 CAQUETÍO WITHIN THE PROTO-NORTHERN MAIPURAN

Very few Caquetío terms were defined by Spanish documents, and besides the few isolated terms that were found in sixteenth century chronicles, only some of the chronicles have survived until the present. These are: 1) Oviedo y Valdés [1535-1557], back then the official chronicler of the Crown, wrote a small dictionary of Amerindian languages, including Taino and Caquetío; 2) Juan de Villegas [1552] (in Gabaldón 1977:31-59), recorded extensive anthroponym and toponym lists that resulted in the repartimiento and encomienda of the Caquetío of Barquisimeto; 3) Ponce and Vaccari [1538-1554] (1977, 1980) documentated the legal proceedings against the various governers of the Province of Venezuela, including anthroponyms and toponyms; 4) 'Relaciones Geográficas Filipenses' which were detailed descriptive accounts of the various provinces of the New World ordered by Philip II. Arellano Moreno (1964) has published the most important for Caquetío linguistics, being those of Barquisimeto (1579) and El Tocuyo (1578) (Oliver, 1989:54).
Later Spanish documents of the Caquetío give us even less information of their language, and it's evident that the Caquetío had been decimated during the Welser government period (1529-1545), and the ones which survived became acculturated to the Spanish language (Oliver, 1989:55).

Pinart, a French man, collected a list of supposed Caquetío words in Aruba in the 1890 (Pinart, 1890) (*table A-1*[45]). A version with some differences of spelling and content was published by Van Koolwijk (Van Koolwijk, 1882) (*table A-2*). Lehman transcribed a few words from sixteenth century sources, but mistakenly classified Caquetío as a Chibchan related language (Lehman, 1920 in Oliver, 1989:61). Arcaya (1920/1977:50-55) was the first who argued for Caquetío being an Arawakan language, which theory was supported by Jahn (1927:210-211 in Oliver, 1989:61). These sources were used by Loukotka to determine his Caquetío Group (Loukotka, 1968:128-130 in Oliver 1989:61).

Oliver (1989) did an historic linguistic analysis of the relationships, through comparative lexicostatistical analysis based on vocabulary lists between Guajiro-Paraujano and Caquetío in the broader context of Arawakan and Maipuran languages of South America. He demonstrated that both Noble's (1965) and Rouse's (1986) presentation of degrees of relatedness of language groups belonging to the Proto-Northern branch is far more complex than previously thought. On the basis of the Caquetío language having initial /d-/ for first person singular, the innovative term for 'dog' (*auri*), and the term kaketio for living creature(s), which Oliver considered crucial lexical/grammatical items, he proposed a Caquetío placement emerging from the same background as Lokono (Oliver, 1989:169-170) (*fig. 41*).

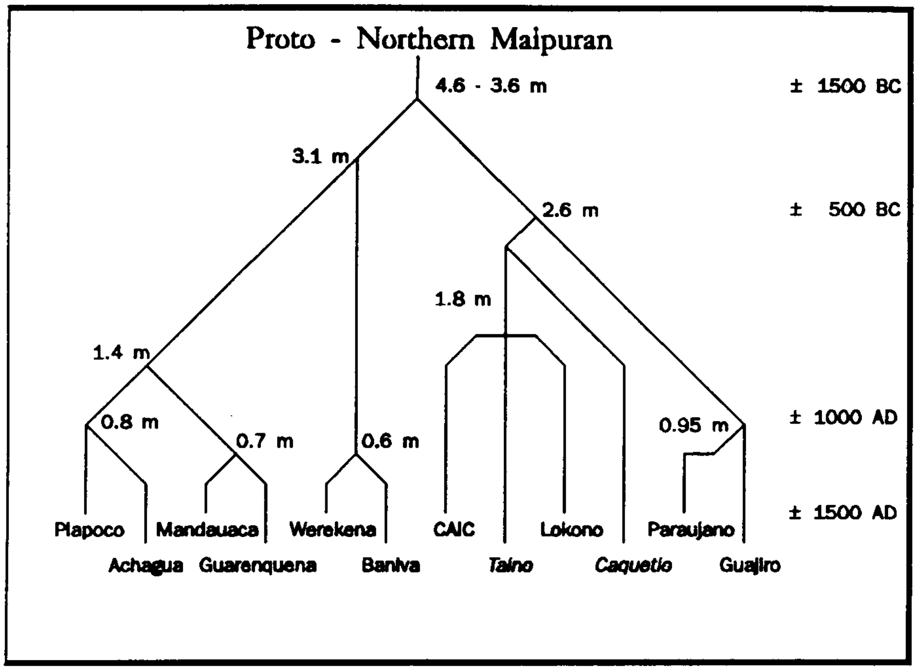


Figure 41. Stammbaum Model of Selected Maipuran Languages north of the Upper Río Negro Basin (after Oliver, 1989:151).

The Caquetío language group split away from the Middle to Upper Orinoco area at about 500 B.C. (Oliver, 1989:177-178), moving up the Apure River and into Northwestern Venezuela, while other groups like the Carib, Lokono and Taino developed from migrations down the Orinoco and out into the Caribbean. The Caquetío speech community spread over the llanos, into Falcón and eventually onto the islands of Aruba, Bonaire and Curaçao (*fig. 42*). The close association between the Caquetío and Lokono is obviously related to the longer duration of these two as one language in the middle Orinoco region, compared to the geographically closer Guajiro, whose branch had separated and begun to differentiate earlier (Haviser, 1991:74).

[45] Whenever I refer to a table A-*x*, I refer to appendix A, table A-*x*.

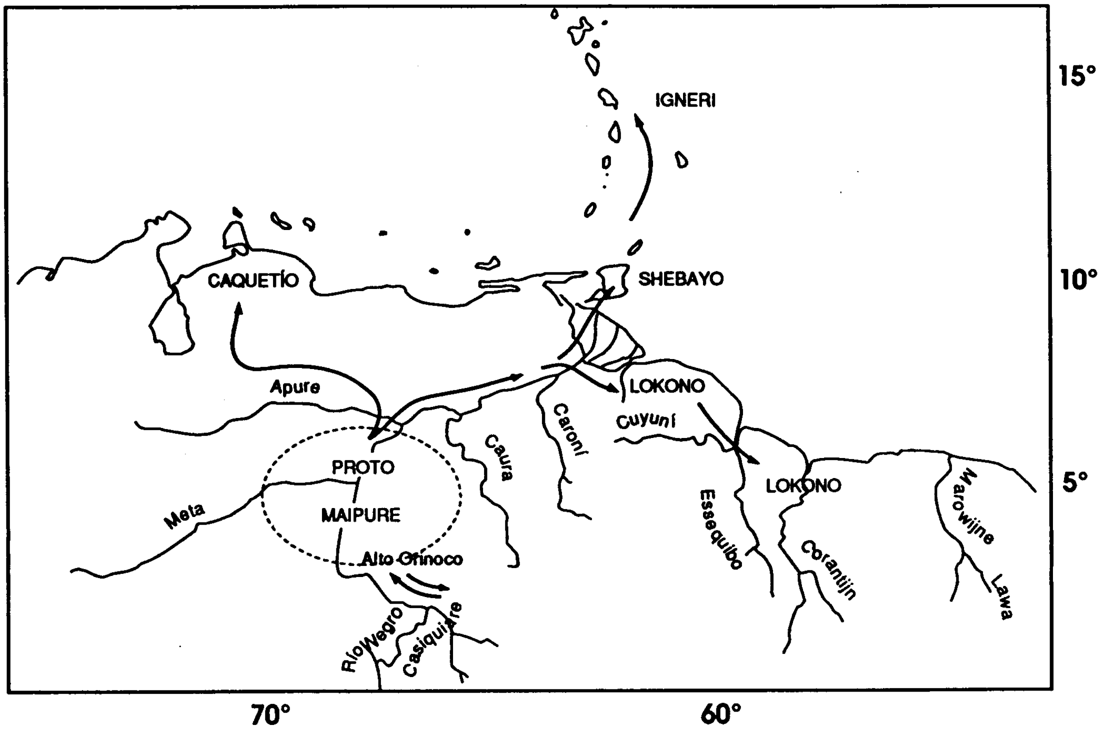


Figure 42. Migration of Arawakan Groups; Origin of Caquetío, Lokono, Shebayo and Igneri out of Proto-Maipuran (after Van Buurt & Joubert, 1994:37).

The Caquetío probably controlled part of the Llanos as they expanded via the Apure River, but at a later point in time, the groups evolving into Achaguan polities, replaced the Caquetío of the Llanos area, pushing them northward toward the Cojedes watershed. At the time of European Contact, the Caquetío still dominated the Upper Llanos, between the low Llanos and the Andean piedmont, but by the late sixteenth century, the Achagua had become the dominant Arawakan language in the regions previously dominated by the Caquetío (Oliver, 1989:156, 180-181). From 1000 A.D. other major expansions, like the Carib, were creating population pressures troughout the Llanos, up to the sixteenth century which would have affected the Caquetío, the Achagua and other Llanos groups (Oliver, 1989:181).

6.6 PAPIAMENTO

The official language spoken on Aruba is Dutch, but the people's language is Papiament**o**. On Bonaire and Curaçao Papiament**u** is the people's language. Papiamentu means 'talking', derived from the word/verb *papia*, what means 'to talk' (probably from old Portuguese *papear*) (De Palm, 1985:367). On Aruba a more or less etymological spelling is used, while on Bonaire and Curaçao a phonological spelling is established. These are by far not used by everyone (Van Buurt & Joubert, 1994:5). On Aruba Papiamento has a greater tendency towards Spanish (Alofs, 1996:69), because of the connections with the mainland (Hartog, 1953:54, 111).

The exact origin of Papiamentu can not be proved, so we don't know if Spanish or a mixture of Indian and Spanish elements are the foundation of this language, or that Portuguese or Portuguese with African elements (Afro-Portuguese) the basis is of Papiamentu. In most of the cases, we talk about an Iberic, Spanish, Poruguese, African or Afro-Portuguese origin of Papiamentu. Few linguists believe in an Indian origin of Papiamentu, because there is a small influence of Amerindian languages in Papiamentu, which can practically only be found in the lexicon (Van Buurt & Joubert, 1994:11). According to Maduro (1966), Papiamentu consists for 66% (two thirds) of Iberic and Amerindian words, some thirty percent of Dutch words, and the remaining 6 % is derived from other languages (Van Buurt & Joubert, 1994:21). On the basis of the small amount of Indian words in Papiamentu, it can be concluded that words spoken on the Iberic Peninsula form the biggest part in the Papiamentu lexicon (*ibid*.).
The opinion exists that the Indian influence has been much stronger in past times, but a lot of these words have been lost through relexification (De Haseth, 1990 in Van Buurt & Joubert, 1994:11). It is generally accepted that Papiamentu became the people's language in the second half of the seventeenth century (Menkman, 1942:121). Hartog thinks that it originated in the beginning of the eighteenth century on Curaçao (1953:54), while Martinus stated that Papiamentu began to develop around 1640 on Curaçao (Witteveen, 1997:12). In the beginning of the eighteenth century father Schabel mentioned that the people of Curaçao talked a kind of 'broken Spanish', while we know that in 1776 the Fransiscan priests preached in Papiamentu, of which year the first official document in Papiamentu is from (De Palm, 1985:367).

Papiamentu is considered to be a Creole language, what means that it was originally exclusively used as a *lingua franca* (colloquial language) between on one hand Africans and their descendants, and on the other hand Europeans and their descendants. When such a lingua franca becomes the native language of these groups from European and African descendant, it's called a Creole language (Van Buurt & Joubert, 1994:18). There are two important theories about the origination of Creole languages, one is the 'monogenetic' theory, and the other is the 'polygenetic' theory. The monogenetic theory explains the origin of most of the Creole languages out of the commercial c ontact and slave trade the Portuguese had on the African west coast. Out of this contact a hybrid language emerged, partly Portuguese and partly African, which spread along the coasts and land and islands where the Portuguese sailed and/or traded (from Japan and the Philippines to the Caribbean region). This Afro-Portuguese nucleus would be the basis of which all Creole languages originated. Differences between Creole languages developed because of the influence of other languages. In Papiamentu the original Afro-Portuguese words would have been more or less totally replaced by Spanish words and other European languages, particularly from Dutch, and less from the English language. Followers of this theory are Navaro Tomas, De Granda, Van Wijk, Valkhoff and Habibe (Van Buurt & Joubert, 1994:18). Recently Martinus (1996) wrote his Ph. D. dissertation about the origination of Papiamentu, and he found a link with the Cape Verde Islands, where slaves from amongst others Angola, Congo and Guiné-Bissau, were brought together before being transported to the West-

Indies. They belonged to differrent language groups, and their daily contact with the Potuguese resulted in a Portuguese dialect, which later could be found back on Curaçao as a dialect called "Guene" (Witteveen, 1997:12).

According to the polygenetic theory, the Creole languages originated where they are or were spoken. This means that they have different origins. Papiamentu would have originated locally out of a Spanish basis with Indian influences, followed by Dutch, Portuguese and African influences, and later influences of English, French and other European languages. Followers of this theory are M.A. Dijkhoff (*pers. comm*.), De Haseth, Rona, Maduro and Ferrol (Van Buurt & Joubert, 1994:18). According to the polygenetic theory, the Portuguese words in Creole languages are explained by the fact that these languages are spoken in regions where African slaves were imported. Because the Portuguese were the first European colonists in Africa, a lot of Portuguese words were current for Africans who lived in regions where slaves were taken. The African elements in Papiamentu, especially found in the grammatical structure[46], is explained by the fact that these Creole languages are spoken in areas inhabited by African slaves. Others think that Portuguese and also African words in Papiamentu mainly came via Brazil to Curaçao, where Portuguese speaking sefardic Jews who lived in former New Holland in northeastern Brazil, escaped to Holland and (via Holland) to Dutch colonies, when the Portuguese reconquered this part of Brazil[47] (Van Buurt & Joubert, 1994:19-20). The Papiamentu language was later, at about 1750 when the first black slaves were oficially reported on Aruba (Alofs, 1996:11), brought to the island with the Curaçaoan settlers (Versteeg & Ruiz, 1991: 20; 1995:68), where it slightly changed into Papiamento. In 1803 Papiamento became the people's language on Aruba, where it got a new meaning. The theory of an Amerindian-Latin American origin of Papiamento is very strong on Aruba, which expresses the alliance with the Indian and Latin American cultures, and the historic and cultural differences with the (Afro-Caribbean) islands of the Netherlands Antilles (Alofs, 1996:69).

6.7 AMERINDIAN WORDS IN PAPIAMENTU

There are at least some 200 words and more than 150 toponyms in Papiamentu which are almost certainly of Amerindian origin (Van Buurt & Joubert, 1994:4) (*table A-3*). Some of them are generally known, but most of them are not used anymore, others are only used by some of the older Papiamento speakers (Brenneker in Van Buurt & Joubert, 1994:11). Most of the Arubans are not aware of these Indian influences in their language. There are Arawakan, Quechua, Aymara, Tupí-Guaraní, Carib, Nahuatl, Taino, Quiche Maya and Caquetío words in Papiamentu (Van Buurt & Joubert, 1994:46-137), which doesn't mean that an Amerindian word in Papiamentu directly came from the language where this word is from (Van Buurt &

[46] For example 'reduplication', which is also an Amerindian phenomenon; this also happens in other Creole languages (Van Buurt & Joubert, 1994:19).

[47] In 1654 the W.I.C. signed the capitulation of Brazil (Van Buurt & Joubert, 1994:19).

Joubert, 1994:8). It is interesting to note that a big part of the words relates to the flora and fauna, which is because most of the indigenous plants and animals of the New World did not exist in the Old World and were not known by the colonists or the African slaves (Van Buurt & Joubert, 1994:5). Many toponyms have an Indian origin, some are still used, while others are gone. Versteeg and Ruiz (1995:69) used topographic maps from 1825, 1916, 1961 and 1982, and found 75 toponyms without any relation with a European language, Papiamento or family/individual name of the Historic Period. Van Buurt and Joubert (1994) found 90 toponyms of Amerindian origin, including toponyms with some of these historic influences, using sometimes a phonologic spelling. Most of these toponyms have the suffixes -*uri*, -*ari*, -*ashi*, -*ana* and -*iri* (Mansur, 1981:28). I combined these two tables into one (*table A-4*).

There are concentrations of these names in specific parts of Aruba, like in Northwestern Aruba, where the modern habitation began in ca. 1968, many names of Indian origin occur. Also on the north coast between Andicuri and Oranjestad, and the hilly parts of East Aruba between Cashiunti, Huliba, Kiwarcu and Coashiati/Jamanota, these concentrations occur (Vertseeg & Ruiz, 1995:69). The centers of European activities on Aruba, like eighteenth and nineteenth century church locations, Colonial Period roadsteads and places where the Dutch or Curacao representatives resided, all have European origin names (*ibid*.).

Some of the most common suffixes noted in Caquetío toponyms by Oliver (1989) are:

-*bana* / -*pana* (surrounding leaves/cover/shelter)

-*coa* / -*koa* (often denotes features of a place or position; superlative of the preposition 'in' or 'on'; often combined with -*ba*- and/or -*bacoa*)

-*oa*

-*kiva*

(*e*)-*bo*

-*wa* (*gua*-)

The Caquetío term for a 'forested valley' is the stem -*ada*-, and is also noted for other groups of the Maipuran language (Oliver, 1989:160-161). The suffix -*ato* indicates a kinship relationship, while the word dato is a cactus fruit. The fruit could be seen as the 'daughter' of the cactus plant (Oliver, 1989:165). To indicate greater quantities, a word could be repeated, e.g. a place with many trees could be stated by *adabacoa* (see *table A-5*). Of the list of these selected Caquetío words (of which five words probably are not Caquetío), eight are either direct Papiamentu words, or are the root for Papiamentu words (Haviser, 1991:75).

The name 'Aruba' is considered to be an Arawakan name by Van Buurt and Joubert (1994:48), certainly of an Indian origin (Menkman, 1942:7). When the Spanish occupied the island, Spanish chroniclers named it *Orua*, *Oruba* and *Ouruba*. Later names are *Curava*, *Uruba*, *Arouba* and ***Aruba*** (Hartog, 1953:32). The first

time the name Aruba appears in a historical document is in the ‘Historia Natural y General de las Indias’, lib. XX, from Gonzalo Fernández de Oviedo in 1526. According to Ernst (1890 in Van Buurt & Joubert:48) Aruba, Oruba, Orua could be derived from the Tupí-Guaraní word *Oirubae*, which means ‘companion’; in this case Aruba would be the companion of Paraguaná or Curaçao. He states that the influence of Tupí-Guaraní in Arawakan and Carib languages has been great, and because the Carib where seafaring people, they would have brought much of these influences to the Caribbean coast of South America and also to the Arawakan regions in Northwestern Venezuela. Others think that Oruba could have some connection with the Carib word *Oraoubao*, which means shell island (Hoyer, 1938 in Van Buurt & Joubert:48). Some authors think that Aruba is derived from the Spanish words *Oro Ubo*, which means ‘there was gold’, what means that the name of the island would be of a Spanish origin, while we know that Aruba was an “Isla Inútil” (Hartog, 1953:33). There is another theory which states that the word Aruba came from Oruba, a bay in the Gulf of Maracaibo, because on the island there lived the same indians as in that region, and they gave it that name, which later changed into Aruba (Hoyer, 1938 in Van Buurt & Joubert, 1994:48). According to Goslinga the Indian word Oruba means ‘well located’ (Goslinga, 1971:264; also De Palm, 1985: 185). An unknown writer in the *Curaçaosche Courant* of 12 December 1835 states that, according to Petrus Martyr, the gulf of Darien originally was named Gulf of Uruba, what meant Gulf of Canoes. Uru would mean canoe, and *-ba* would be the genetive; Aruba could mean the same (Hartog, 1953:33). Mansur thinks that the name Aruba could also have its origin in the name of the Indians who lived on the island and were called the Arubaes (Arubanas in 18th century) in the report of 1607 (Relaciones Geográficas de Venezuela) (Diario, 1997:40-41). However, we don’t know if these Indians were the original Caquetío who lived on the island when the Spanish discovered Aruba, and in 1526, when the island was the first time called by its original name Aruba, the Caquetío Indians were already deported, and those who returned were not (all of) the original Indians. The Indians of Aruba were later called Arubaes and Arubanas, so it’s uncertain if Aruba was named after the Indians, or the Indians after Aruba.

For the completeness of the information of Amerindian words in Papiamentu, I added from Haviser (1991:80) a list from Lauffer (1971) and Martinus (1990) together with some words of a possible Amerindian origin suggested to Haviser during interwiews on Bonaire in 1990 (*table A-6*).
According to Oliver, the terms obtained from Aruba by Gastchet (1885) and Van Koolwijk (1882) are not comparable to any of the languages he’s familiar with. However, there are some terms like the *yoroyoro*, which is a plant name in Aruba, whose form seems to resemble the Guajiro *yotoyolo* (*Theretia neriflora*). Furtermore, the names of certain trees and vegetation are commonly found in coastal Falcón and include the ubiquitous stem -ada- (*dabaraida, hubada* and *tarabada*). The tree *Sapindus coriaria* is designated as *watapana*, which includes the morpheme -pana (leaf, surrounding). Terms like maraca (maraka) are probably of Taino origin and possibly brought in along with cacique (kasike) and many others by the Spanish, going through Hispaniola before reaching Venezuela (Oliver, 1989:170). De Goeje told Hartog

that the old Indian words in Papiamento on Van Koolwijk's (1882) list are not of a Caquetío origin, but from colonial Spanish spoken on Haiti in the fifteenth and sixteenth century; they are more related to Carib languages, but are not from the Island-Carib (Hartog, 1953:5; 1952b:16). Van Buurt and Joubert consider the word *pekinini* of Portuguese origin, and furthermore Van Koolwijk's and Pinart's lists include the word *waidanga* (synonym of *totumba*), which they consider of an African origin or an Indian word which had African influences (Van Buurt & Joubert, 1994:142). They state that the words *ginga, guruguru, kimakima, kipopó, krabete, lembelembe, mamondenga, nandu, paluli and purantsi* of Pinart's list have a non-Amerindian origin (Van Buurt & Joubert, 1994:142-145).
Haviser compared the words of the lists of Pinart, Lauffer and Martinus, and found two words which are evident on the list of Oliver, namely *chuchubi* and (wata)-pana, and one additional word is common to these three lists, being *shimaruku*, but it's not on Oliver's list (*table A-5*). Between Lauffer's and Pinart's list, *warawara* and *takamahak* are common (Haviser, 1990:76). In 1990 Oliver suggested to Haviser that the word warawara is translatable from the Caquetío word *waro* or *waru*, which is a species of green parrot. In Barquisimeto this word is still used for both the parrot and people who are 'smart alecs', and Oliver suggested that the repetition of the word probably related to (the place of) many parrots. On Aruba, Bonaire and Curaçao this word ironically refers to a type of vulture, not a parrot. Between Lauffer's list and Martinus' list there are eight words in common. The most characteristic feature of the suggested Amerindian origin words, are the repetative syllable words. As noted before, this repetition of words or word segments doesn't prove a Caquetío or Amerindian influence in Papiamentu. According to Haviser, if these words are derived from Caquetío, it would declare (exemplify) the stronger preservation of Amerindian influences via oral traditions, rather than written documents (Haviser, 1991:77).

The influences of the Caquetío language in Papiamentu is still present, but we mustn't forget that: 1) The known items of the Caquetío language is very poor; 2) Linguists are still developing theories about the formation of Papiamentu; and 3) There is a frequent mixing of various Amerindian languages by both historical chroniclers recording Caquetío, and by modern linguists studying Papiamentu (Haviser, 1991:75). Words like cacique, *maraca*, *barbacoa*, *orkan*, *canoa*, *cunucu*, *hamaka* and others were called native Caquetío by the Spanish, while these words were introduced by themselves from the Taino language. Other words indicated as of an Amerindian origin by the Spanish, were more likely Arabic words introduced by African slaves (Rosenblat, 1982 in Haviser, 1991:75). Other words are frequently identified as Indian, with little regard to whether these were indigenous Caquetío, borrowed Taino, or late arrival Guajiro words (Oliver 1989:170; Haviser, 1991:75).

7. PROCESSING THE POTTERY OF THE TANKI FLIP / HENRIQUEZ SITE

7.1 INTRODUCTION

The Tanki Flip pottery has never been subjected to an intensive investigation or analysis. Sterks used some complete vessels for his thesis in 1982, while Boerstra began investigating the pottery for his Ph. D. dissertation, but never finished it, and presently Versteeg is analyzing the pottery excavated in 1994. As Oliver's (1989) investigations on Dabajuroid pottery brought new insights, I choose to investigate the Tanki Flip (Henriquez) pottery, as now it can be better understood. Despite being the best documented Ceramic Period site of Aruba (that Boerstra excavated) at the time when I collected this material in July 1994, there were still different discrepancies I had to cope with, which I also found out during the time I was analyzing the pottery.

The pottery I collected, had been excavated between 1975 and 1977 by Boerstra at the Tanki Flip/Henriquez site, which is the the southern part of the total Tanki Flip site. The pottery was collected from the features, with no pottery from the topsoil included. As we know that this area has been used for agriculture, and has been ploughed, this topsoil material would not be of any diagnostic value. When I talk about the Tanki Flip pottery in the text, I refer to the pottery of the southern part (Henriquez). When I mean by the Tanki Flip pottery from the northern part, I'll mention this.

The total excavated area by Boerstra was ca. 4400 m² (40×110 m), and as no stratigraphy is visible, it was excavated in the "traditional" way; the topsoil (grey) was bull-dozered, until a depth of 30-40cm, where the Indian habitation layer (yellow soil) began. The features were sectioned, but I don't know which kind of mesh sieve was used to sieve the material found in the features. Boerstra divided the area into two (very large) pits and a section between these pits, in which 5000 man made features were found. I collected feature numbers 1-1000 (of ca. 1500 numbered features), of which 416 features contained pottery. This means that I investigated two thirds of the total features containing pottery, distributed over the entire excavated site area (*fig. 43*)[48], as I intended to get a total overview of the pottery produced by the Dabajuroid people who lived at the Tanki Flip/Henriquez site. By investigating the typological, morphological, and technological features of this material, a placement in the newly made chronological chart of the Macro-Dabajuroid Tradition made by Oliver (1989) would be possible.

There were feature charts of the features 1-1000, on which the different material findings were recorded, but during the analysis, I noticed that often it did not match the actual pottery which was present. A lot of body sherds were "missing". Furthermore, some complete vessels were missing, and other complete vessels and

interesting pottery artefacts were in the museums exposition, while also all the urns (7) were missing . I returned to Aruba to find out where the missing pottery was, and I had the luck to find some of the missing complete vessels, but none of the urns were recovered. Also the numerous missing sherds were not recovered, but I suspect that the feature charts were not really 'professionally' filled in, just like all the coordinates of the exact location of the features were full of errors. Another reason why I had to return to Aruba was that because of a misunderstanding between myself and the museum personal, all the unit- and section drawings returned to Aruba, and without these, it would have been impossible to understand, for example, the context where the pottery was found.

When I began analyzing the material, I first decided to analyze all the pottery of feature numbers 1 - 553 (237 features with pottery), with only the diagnostic pottery of the resting features, due to the time I had, but later when I was on Aruba again, I decided to analyze all the pottery of feature numbers 1 - 1000. All by all, this means that I had different problems to cope with, but I think that the results can generally be considered representative of the Tanki Flip/Henriquez pottery style.

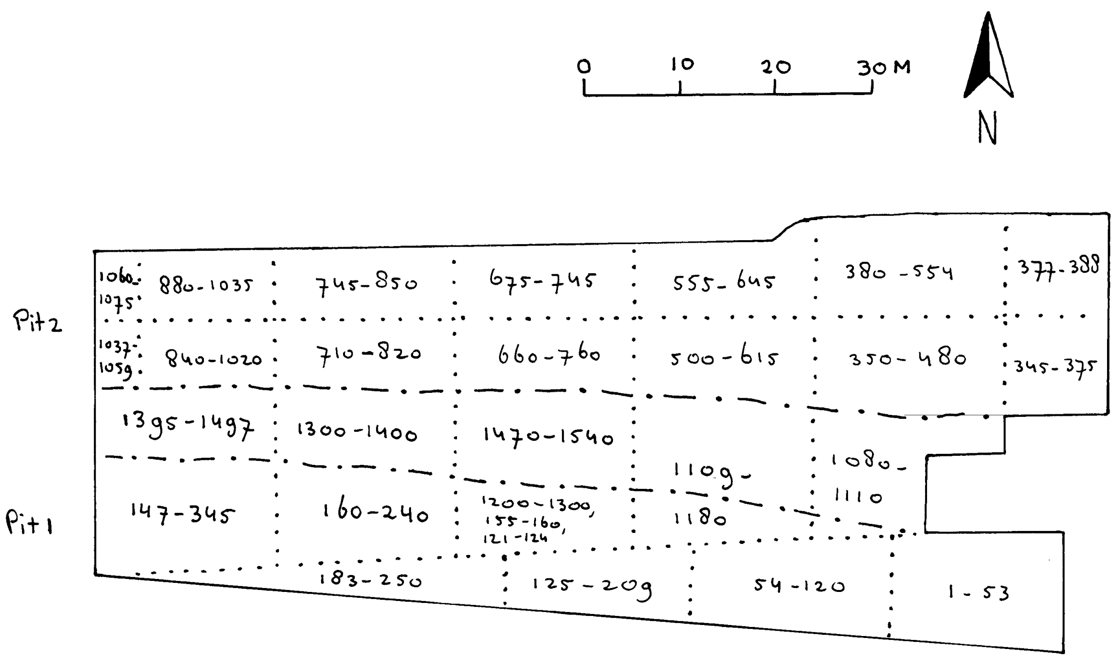


Figure 43. The Tanki Flip/Henriquez Site showing the Location of the Features.

– • – • – Boundaries of Pits 1 and 2.

• • • • Boundaries of Boerstra's unit drawings showing features located in that particular area.

[48] Except in the area between the two pits.

7.2 PROCESSING THE POTTERY

To begin to understand the pottery during the processing, it is important to get grips with the sample quality, which means that some important aspects need to be recorded, like sherd quantities and dimensions, and the percentages of diagnostic elements. Furthermore a large number of different characteristics (attributes) have to be recorded, and especially with the Dabajuroid pottery, which is so complex, this means that one must be careful not to overlook any of these dimensions, because consequently important diagnostic elements could be missed. One of the biggest problems I had when I began analyzing the pottery, was that I didn't know the pottery very well. Together with C.L. Hofman, I made a few pages of pottery processing form, which was based on the basic elements from Hofman's (1993) investigation on the ceramic material from Saba (analytic classification; identifying and describing modes by forming succesive series of classes, which point to various characteristics of the artefacts). We naturally made the necessary adjustments for the Aruban pottery, and during the analyzing of the pottery, however, I had to modify the pages of form different times.

7.2.1 Number, Weight and Size

For the quantification of the sherds, they have to be separated into categories, which are 'body', 'rim', 'base' and 'griddle' sherds, and an 'appendages/other' category, and all are counted and weighed. The different sherd categories are furthermore divided on the basis of their size into sherds smaller or larger than 5 cm.

7.2.2 Decoration Modes

Dabajuroid pottery has a great variety of decorative modes, and also combinations of different decorative modes are present. In the case of a combination of decorative modes, the main category was recorded, but I also recorded the other decorative attribute(s) in my personal notes ('combinations of decoration modes'). The recorded set of attributes of decoration are:

1. Black-on-white: this is one of the most distinctive paintings in Dabajuroid pottery, and as Oliver (1989:443) stated, black ranges from a dark reddish-brown, to dark brown to pitch black. I wanted to see of there was any relationship within the different "blacks", reason why I divided the black in 'black', 'reddish-brown' and 'brown'. I must also mention that white ranges from white, to yellowish to bluish /greyish white (also stated by Du Ry, 1960:92);
2. Painting-on-plain (natural/buff): this decoration is mostly black-on-plain;
3. Black-on-red: a very important diagnostic attribute;
4. Black and red-on-plain: this bychrome painting also occurs in Dabajuroid pottery;

5. Polychrome painting: in Dabajuroid pottery this is black and red-on-orange, and black and red-on-white;
6. Red-on-white, and brown-on-brown: from the prior investigated Aruban pottery these attributes were possibly (less frequently) present;
7. Modelling: an attribute including geometric, zoomorphic and anthropomorphic modelling (*adornos* and moddeled appliqués);
8. Nubbins: this attribute is frequently present in Dabajuroid pottery;
9. Incision, punctation, hollow punctation, and arches: these attributes are mostly used as an auxiliary technique;
10. Perforation: this is a decoratiattribute attribute, but I don't know if it must always be considered as having a decorative function, because sometimes I have the idea that it has a technical function. Drilled holes and 'windows' (perforations) of the different kinds of bases (annular and bulbar) are also included;
11. Finger indentation: this decoration technique only occurs on rims with one or more coils;
12. Coiled decoration: these are the so called "corrugated" rims, and I consider them as decoration modes, when two or more coils are present. I distinguished between two and five coils, which I furthermore divided into with or without finger indentation;
13. Other: this records all other decorations not present on my list.

7.2.3 Slip

The presence of slip is also recorded, as not always the difference between a decoration technique or a functional application (surface treatment) is clear. I divided the slip colours in red, brown (or beige) and white. It is however very difficult to see with the naked eye if the color is slip or paint, and Oliver even distinguishes a 'pseudo-slip' (*pers. comm.*). For example, black on white sherds could be painted on a white paint, or on a white slip, in which in the latter case the decoration attribute (bl-o-w) is recorded, and also the presence of white slip is recorded. The sherds are often very eroded, what makes it much more difficult to see this distinction with the naked eye.

7.2.4 Decorated Sherds

The total amount of sherds with one or more decoration attributes were also recorded.

7.2.5 Appendages/other

Appendages are defined assessory features of vessels, and the following categories are recorded:

1. Handles: these have different shapes;
2. Lugs: including rim (also 'tabular lip extensions') and side lugs;

3. Potstands, also known as *topias* (Rouse & Cruxent, 1963), which may be ‘ firedogs’ or pot-rests (Willey, 1949:150): these are cylindrical objects, or movable bases (Oliver, 1985), probably used to support vessels in the fire during cooking (Hofman, 1993);
4. Spindle whorl: these are perforated clay discs, which possibly functioned as spindle whorls;
5. Clay discs;
6. Spouts;
7. Legs;
8. Incense burners;
9. Blank: these are the categories of objects not present on the list.

7.2.6 Base Shapes

As complete vessel profiles are seldomly recovered, bases have to be described individually, and most of the times it is difficult to find an association between base and vessel shape. The thickness and height of the bases (annular, bulbar and shafted), and base diameters were recorded whenever possible. Convex bases could have *tusa impressions* (impressions of corn cobs without kernels); these are done by pressing a reinforced layer of clay at the bottom of the vessel pressing it tight by rolling a corn-cob (Oliver, 1989). There are seven possible base shapes (*fig. 44*):

1. Flat bases;
2. Convex (or pointed) bases;
3. Base-rings (Sterks, 1982): these are convex bases with a clay roll (coil) attached on the bottom;
4. Simple annular bases: these are with or without windows;
5. Bulbar bases (Oliver, 1989): these roughly correspond with pedestal bases, are larger than annular bases and have a bulbing profile;
6. Shafted bases (Oliver, 1989): these are bases with a thin, lenticular in cross-section, ‘ring’;
7. Leg-ring bases: these bases have legs attached to a ring.

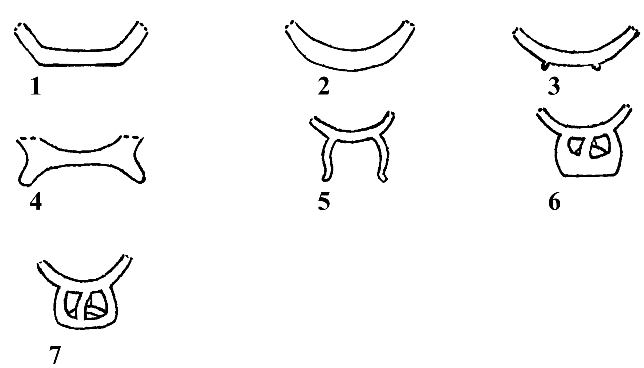


Figure 44. Classification of the Base Shapes for the Tanki Flip Pottery.

7.2.7 Griddles

The griddles, which are functionally related to the baking of flat bitter manioc (cassava) cakes, are generally flat, have crudely finished bottoms which may have reed or finger imprints, while the surfaces are smoothed, and sometimes burnished. In the Dabajuroid pottery, the griddles are divided into *budares* and *aripos.* Budares are thick and have diameters larger than ca. 40 cm, while aripos are thin and have smaller diameters. The aripo is related to arepas (maize cakes), although no archaeological evidence of this function-form relation has been recorded yet. Whenever possible, the diameter, thickness of the rim, and thickness of the baking surfaces were recorded.

There are only two distinguished rim shapes (*fig. 45*):

1. Straight rims;
2. Rounded rims.

1 **2**

Figure 45. Classification of the Griddle Rim Shapes for the Tanki Flip Pottery.

7.2.8 Rims

7.2.8.1 Introduction

Rim sherds larger than 5cm were subjected to this analysis, which gave the best information, as on smaller rim sherds, not much can be inferred. Very important are the vessel shapes (morphology), and to a lesser extent, stylistic and technological aspects are recorded, which in relation to specific shapes can give us more information of e.g. the function of the vessels. The coding procedure consisted by giving a numerical code to the quantitative variations of the morphological, stylistic, and technological attributes of each rim sherd.

7. 2.8.2 Vessel Shape/Wall Profile

The classification system developed by Shepard (1963), which is based on vessel contour and vessel orifice, allows the recording of general vessel shapes by using only rim sherds. The vessel contour classification is made by combining the vessel profile and the symmetry about the vertical axis of the vessel (Shepard, 1963:225-233). Birkhoff considers four characteristic points important for the vessel contour description:

1. End points of the curve at the base and lip;
2. Points where the tangent is vertical;

3. Points of inflection where the curvature changes from concave to convex, or vice versa;
4. Corner points where the direction of the tangent changes abruptly.

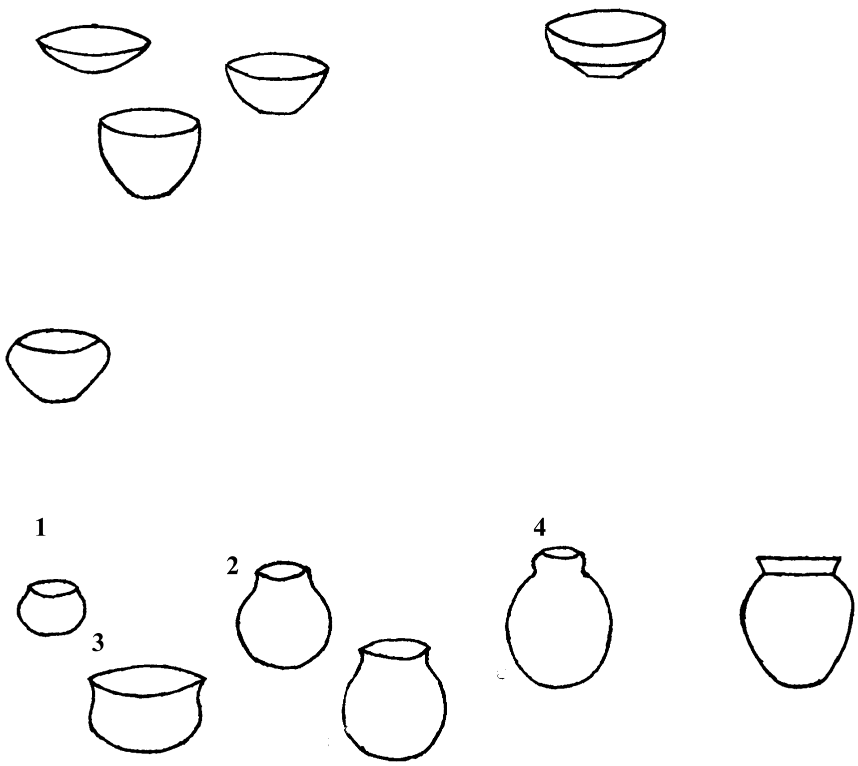
Shepard described the vessel orifice in terms of unrestricted, simple and independent restricted forms, which point to functional categories between the basic vessel shape division, and vessel function. However, these don't imply specific functions (Hofman, 1993:63).

A first distinction is based on vessel contour:

1. Simple contours: with one single end-point of the curve at base and lip, and a general smoothness of outline. These contours are simple and have smooth uninterrupted straight or curving walls, and lack angle and inflection points;
2. Composite contours: they have an angle point in the corner;
3. Inflected contours: they have an inflection point where the curvature changes from concave to convex, or vice versa;
4. Complex contours: these have more than one angle or inflection point with a combination of at least two angle or inflection points, or a combination of an angle and an inflection point.

A second distinction is based on vessel orifice:

1. Unrestricted vessels: they have an open orifice, and are marked by an end-point tangent that is vertical or inclined outward;
2. Simple and dependent restricted vessels: these vessels have a tangent at the end point that is inclined inwards, but the profile lacks a constriction marked by a corner or inflection;
3. Independent restricted vessels: they are defined by a corner point, or an inflection point above a major point (a point at the equator of the body).



V ... y a subdivision has

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a ... ;

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H ... our, 3. jar with an
u ... above the corner point, 5.
b ... with an independent

restricted, inflected contour: a. bowl with a straight neck, b. bowl with an outflaring neck, c. jar with a straight neck, d. jar with an outflaring neck, e. jar with a bulbar neck, 7. bowl or jar with an independent restricted, composite contour.

1. Dish with an unrestricted simple contour;
2. Bowl with an unrestricted simple contour;
3. Jar with an unrestricted simple contour;
4. Dish or bowl with an unrestricted composite contour (with a straight profile above the corner point);
5. Bowl with a restricted simple contour (with the largest diameter above the half of the height);
6. Bowl or jar with an independent restricted, inflected contour:
    a. bowl with a straight neck,
    b. bowl with an outflaring neck,
    c. jar with a straight neck,
    d. jar with an outflaring neck,
    e. jar with a bulbar neck;
7. Bowl or jar or with an independent restricted, composite contour.

7.2.8.3 Lip Shape

There are eight general lip shapes distinguished, which have variations. A relationship can exist between lip shapes and particular wall profiles. The general lip shapes are:

1. Rounded lips;
2. Flattened lips;
3. Inwardly thickened lips (thickened or folded);
4. Outwardly thickened lips (always folded);
5. Double thickened lips;
6. Inwardly bevelled lips;
7. Outwardly bevelled lips;
8. Flanged lips.

The last three lip shapes are grouped into the group of bevelled rims (*fig. 47*).

7.2.8.4 Rim Profile

The rim profile records the angle of the axis of the lip with the axis of the vessel wall, and is part of the lip shape category. The general rim profiles are (*fig. 48*):

1. Straight, vertical;
2. Bevelled, everted;
3. Bevelled, inverted;
4. Horizontal;
5. Flaring;
6. Outflaring;
7. Incurved.

7.2.8.5 Wall Thickness

It is important to record the wall thickness, which measurement is made two centimeters below the lip portion, because it can be related to the vessel sizes. Five main classes are distinguished:

1. 1 - 5 mm
2. 6 - 8 mm
3. 9 - 11 mm
4. 12 - 14 mm
5. 15 - 18 mm

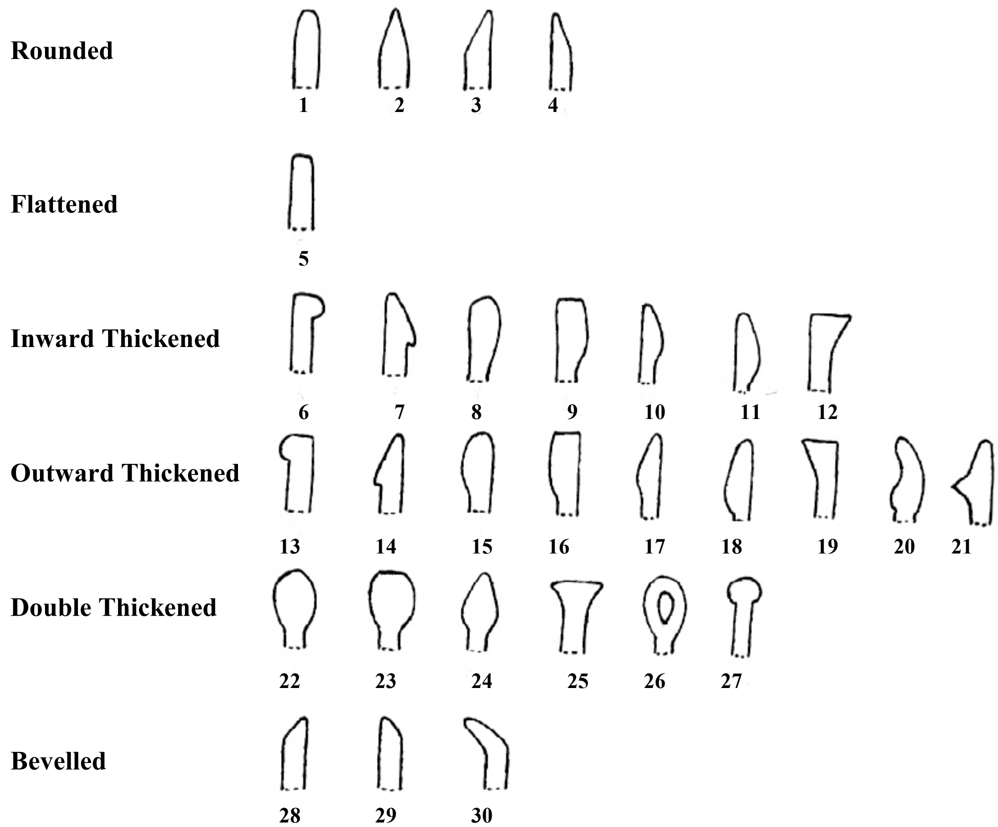


Figure 47. General Lip Shapes (modified after Hofman, 1993:66)**.** Rounded lips, 1. unmodified, 2. bilateral taper, 3. external taper, 4. internal taper; Flattened lips, 5. flat, unmodified; Inward thickened lips, 6. internal semicylindrical bolster, flat, 7. internal bolster taper, 8. inward thickened, rounded, 9. inward thickened, flat, 10. inward thickened, taper, 11. inward thickened, border, 12. inward thickened, wedge; Outward thickened lips, 13. external semicylindrical bolster, flat, 14. external bolster, taper, 15. Outward thickened, rounded, 16. outward thickened, flat, 17. outward thickened, taper, 18. outward thickened, border, 19. outward thickened, wedge, 20. external bend bolster, taper, 21. external pointed bolster, taper; double thickened, 22. double thickened, rounded, 23. double thickened, flat, 24. thickened, bilateral taper, 25. wedge bilateral, 26. hollow double thickened, rounded, 27. Semicylindrical bolster, bilateral; Bevelled, 28. external bevelled, 29. internal bevelled, 30. Bevelled, labial flange**.**

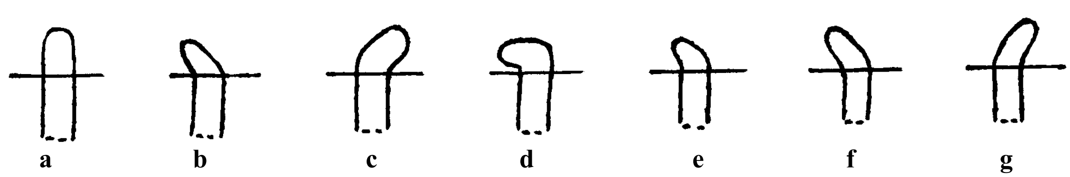


Figure 48. General Rim Profiles (Hofman, *pers. comm).* a. straight, vertical, b. bevelled, everted, c. bevelled, inverted, d. horizontal, e. flaring, f. outflaring, g. incurved.

7.2.8.6 Orifice Diameter

The diameter template is used to calculate the orifice diameter, in order to get an idea of the diameter of the vessel. Measurements of boat-shaped and kidney-shaped vessels, or incurving rims, the template doesn't give the diameter of the vessel, and they are not accurate. The template is furthermore used to estimate the percentage of the calculated diameter. Five classes are distinguished:

1. 1 - 10 cm
2. 11 - 20 cm
3. 21 - 30 cm
4. 31 - 40 cm
5. 41 - 50 cm

7.2.8.7 Colour

The sherd's colour can be the result of the used clays, the conditions of firing, the addition of slips, and of alterations during use and in the post depositional environment (Rice, 1987:343-345). The colour on the interior and exterior surface, and also the core colour (core and sub-surfaces) were recorded using the Munsell Colour Soil Chart. The colours which are distinguished are:

1. Light grey: (Hue 10YR 7/1, 7/2, 6/1; Hue 7.5YR N7/);
2. Grey: (Hue 10YR 5/1, 4/1; Hue 7.5YR N6/, N5/; Hue 5YR 4/1, 3/1);
3. Very dark grey/black: (Hue 10YR 3/1, 2/1, 2/2; Hue 7.5 YR N2/, N3/, N4/; Hue 5YR 2/1);
4. Light brownish-grey/greyish-brown: (Hue 10YR 6/2, 5/2; Hue 5YR 7/1, 6/1, 5/1);
5. Dark greyish-brown: (Hue 10YR 4/2, 3/2, 3/3);
6. Light brown/brown: (Hue 10YR 6/3, 5/3, 5/4, 5/6, 5/8, 4/3, 4/4, 4/6; Hue 7.5YR 6/4, 6/6, 5/6);
7. Very pale brown: (Hue 10YR 8/2, 8/3, 8/4, 7/3, 7/4);
8. Dark brown/very dark brown: (Hue 7.5YR 5/2, 5/3, 5/4, 4/2, 4/3, 4/4, 3/2);
9. Pinkish grey: (Hue 7.5YR 7/2, 6/2; Hue 5YR 7/2, 6/2);
10. Pink: (Hue 7.5YR 8/3, 8/4, 7/3, 7/4);
11. Reddish-grey/dark reddish-grey: (Hue 5YR 5/2, 4/2)
12. Light reddish-brown/reddish-brown: (Hue 5YR 6/3, 6/4, 6/6, 5/3, 5/4, 5/6, 4/3, 4/4, 3/2, 3/3, 3/4, 2/2; Hue 2.5YR 5/4, 4/4);
13. Red: (Hue 2.5YR 5/2, 4/2, 4/3; Hue 10R 5/2, 5/3, 5/4, 4/2, 4/3, 4/4, 4/6, 4/8, 5/6, 5/8).

Core colour measurements were made on a freshly broken cross section, of which the colour of the core and outerzones were determined. The following distinction is made, and the relationship between firing colour and firing conditions is taken from Rice (1987:345, Table 11.3):

1. Complete reduction: dark grey or black core and outerzones;
2. Incomplete oxidation or reduction: light grey core and outerzones;
3. Incomplete oxidation: dark grey or black core and red or light grey outerzones;
4. Complete oxidation: red core and outerzones;
5. Incompletely or relatively well oxidized: grey or brown core and brown outerzones;
6. Uncertain: white core and outerzones.

7.2.8.8 Surface Finishing

The surface finishing of the interior and exterior surfaces of the vessel were recorded, although erosion sometimes makes it difficult to identify exactly which surface finishing was applied. The following division can be made:

1. Unfinished crude surfaces;
2. Scraped surfaces;
3. Smoothed surfaces;
4. Lightly burnished surfaces;
5. Highly burnished surfaces;
6. Polished surfaces.

7.2.8.9 Decorations

The decoration on sherds has already been recorded in a previous stage, however, the identification on rimsherds larger than 5 cm can specify some relationship between the application of various decoration attributes and specific vessel shapes.

7.2.8.10 Slip

Red, brown or white slip was recorded as a separate category, as it is not always clear if it is used as a decoration technique or as a surface treatment. The way the slip was applied on the vessel was recorded, and the different distinctions are:

1. Overall slip;
2. Only the exterior is covered by slip;
3. The exterior and lip are covered by slip;

4. Only the interior is covered by slip;
5. The interior and lip are covered by slip;
6. Only the lip is covered by slip.

8. THE TANKI FLIP POTTERY

8.1 DESCRIPTION OF THE TANKI FLIP POTTERY ASSEMBLAGE

8.1.1 Total Numbers and Weight

The total amount of pottery sherds investigated comprises 9786 potsherds, which have been distinguished in five categories. There were 8634 body sherds (88.2%), 892 rims (9.1%), 95 bases (1.0%), 29 griddles (0.3%), and 136 appendages/other (1.4%) (*table* 5).

The total weight of the pottery sherds is 158.410 kg, which gives an average sherd weight of 16.2 gr. The total weight of the different categories are: 125.049 kg body sherds (78.9%), 26.311 kg rims (16.6%), 3.301kg bases (2.1%), 1.537 kg griddles (1.0%), and 2.212 kg appendages/other (1.4%).

POTTERY	NUMBER	WEIGHT	< 50 mm	> 50 mm
Body	8634	125.049	6869	1495
Rim	892	26.311	634	258
Base	95	3.301	44	51
Griddle	29	1.537	14	15
Appendages/other	136	2.212	110	26
Totals	9786	158.410	7671	2115

Table 5. Total Numbers and Weight of the Tanki Flip Pottery..

8.1.2 Bases

The shape of all 95 base sherds could be determined:

1. There were 38 shafted bases (40%), of which 33 are decorated; 32 are painted (one with 2 perforations; and two ‘leg supports’ have inside perforations), and two have 2 perforations (*figs*. *49-51*). The average diameter is 12 cm, with a smallest diameter of 8 cm, and a maximal diameter of 20 cm. The average thickness is 6.6 mm, with a minimal thickness of 4 mm, and a maximal thickness of 10 mm. The average height is 4.4 cm, with a minimal height of 1.8 cm, and a maximal height of 5.8 cm.
2. There were 18 bulbar bases (18.9%), of which 5 have windows (2 also painted), and 13 are without windows (8 painted) (*figs. 52-53*). The average diameter is 13.5 cm, with a minimal diameter of 10 cm, and a maximal diameter of 20 cm. The average thickness is 6.8 mm, with a minimal thickness of 5 mm, and a maximal thickness of 11 mm. The average height is 5.9 cm, with a minimal height of 4.8 cm, and a maximal height of 6.5 cm. The heights are not as large as those of the bulbar bases found in the mainland Dabajuran sites.
3. There were 16 simple annular bases (16.8%), of which 4 have windows, and 12 don’t have windows. None of the annular bases are painted (*fig. 54*). Two vessels have annular bases (without windows), which were not counted on the processing form, where they are listed under rim sherds, but would

make a total of 18 annular bases (*fig. B-21b*, *B-23b*). For the measurements, they were included. The average diameter is 9.8 cm, with a minimal diameter of 6 cm, and a maximal diameter of 16 cm. The average thickness is 9 mm, with a minimal thickness of 6 mm, and a maximal thickness of 16 mm. The average height is 3.9 cm, with a minimal height of 1.9 cm, and a maximal height of 5.3 cm.

4. There were 10 convex bases (10.5%), of which two were painted (*fig. 55*). Six vessels also have convex bases, which would make a total of 16 convex bases (*figs. B-8a*, *B-11a*, *B-12b*, *B-27b*). The average thickness is 10.1 mm, with a minimal thickness of 6 mm, and a maximal thickness of 20 mm.
5. There were 9 flat bases present (9.5%) (*fig. 56*). One flat base was just slightly concave, while one vessel also had a flat base, but this base could have been part of an annular base. The average diameter is 10.7 cm, with a minimal diameter of 8 cm, and a maximal diameter of 16 cm. The average thickness is 11.2 mm, with a minimal thickness of 8 mm, and a maximal thickness of 19 mm.
6. There were 2 base-rings present (2.1%)(*fig. 57a-b*). The average diameter is 9 cm, with a minimal diameter of 6 cm, and a maximal diameter of 12 cm. The average thickness is 17 mm, with a minimal and a maximal thickness of 17 mm.
7. There was only one leg-ring base in the assemblage (1%), which has a diameter of 10 cm, a thickness of 1.4 cm, and a height of 1.9 cm (*fig. 57c*).

The total bases, including those of complete or semi-complete vessels (9), would amount 104 bases. The averages would change slightly: shafted bases 36.5%, annular and bulbar bases each have the same percentage 17.3%, convex bases 15.4%, flat bases 9.6%, base-rings 1.9%, and leg-ring bases 1.0%.

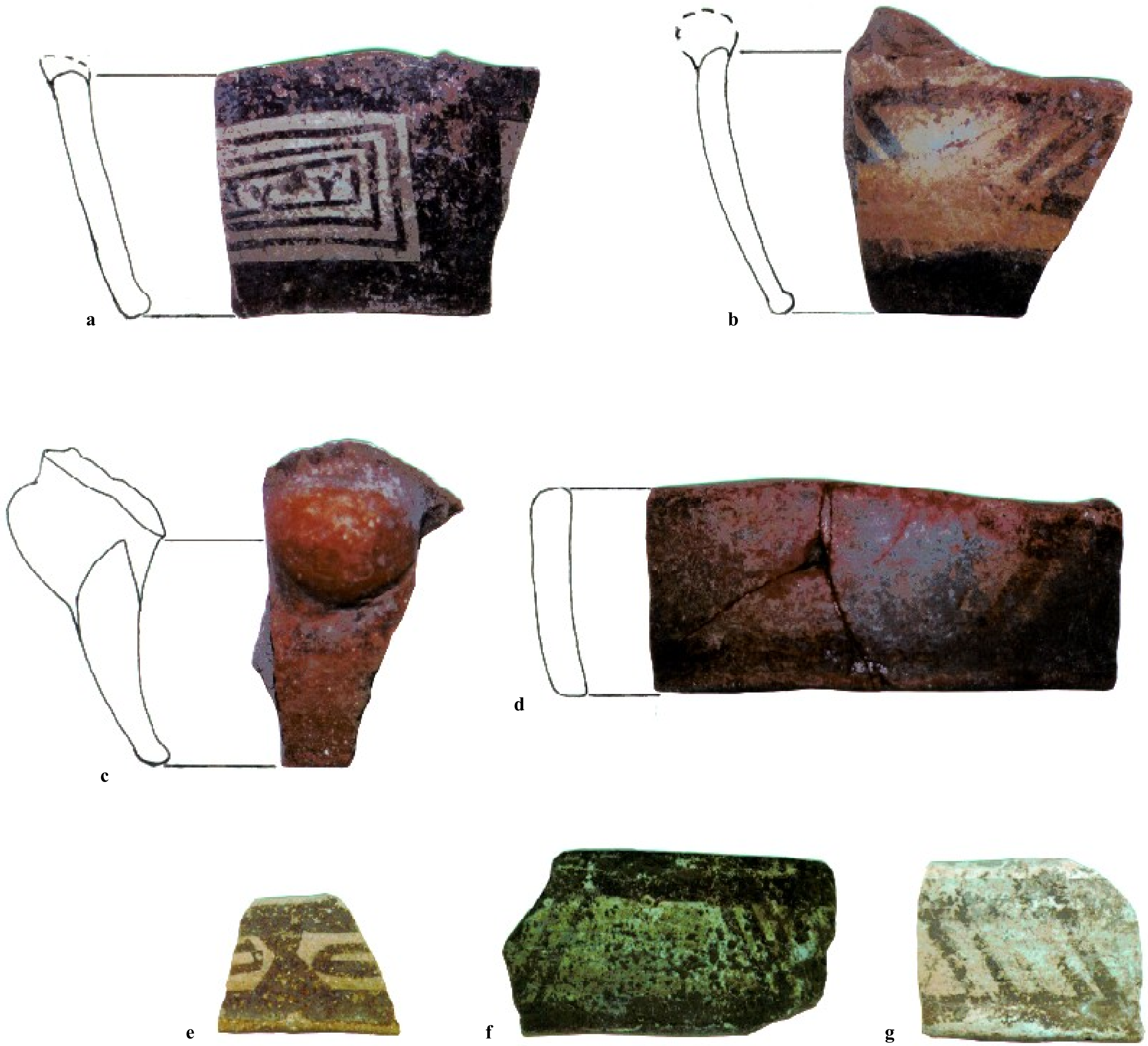
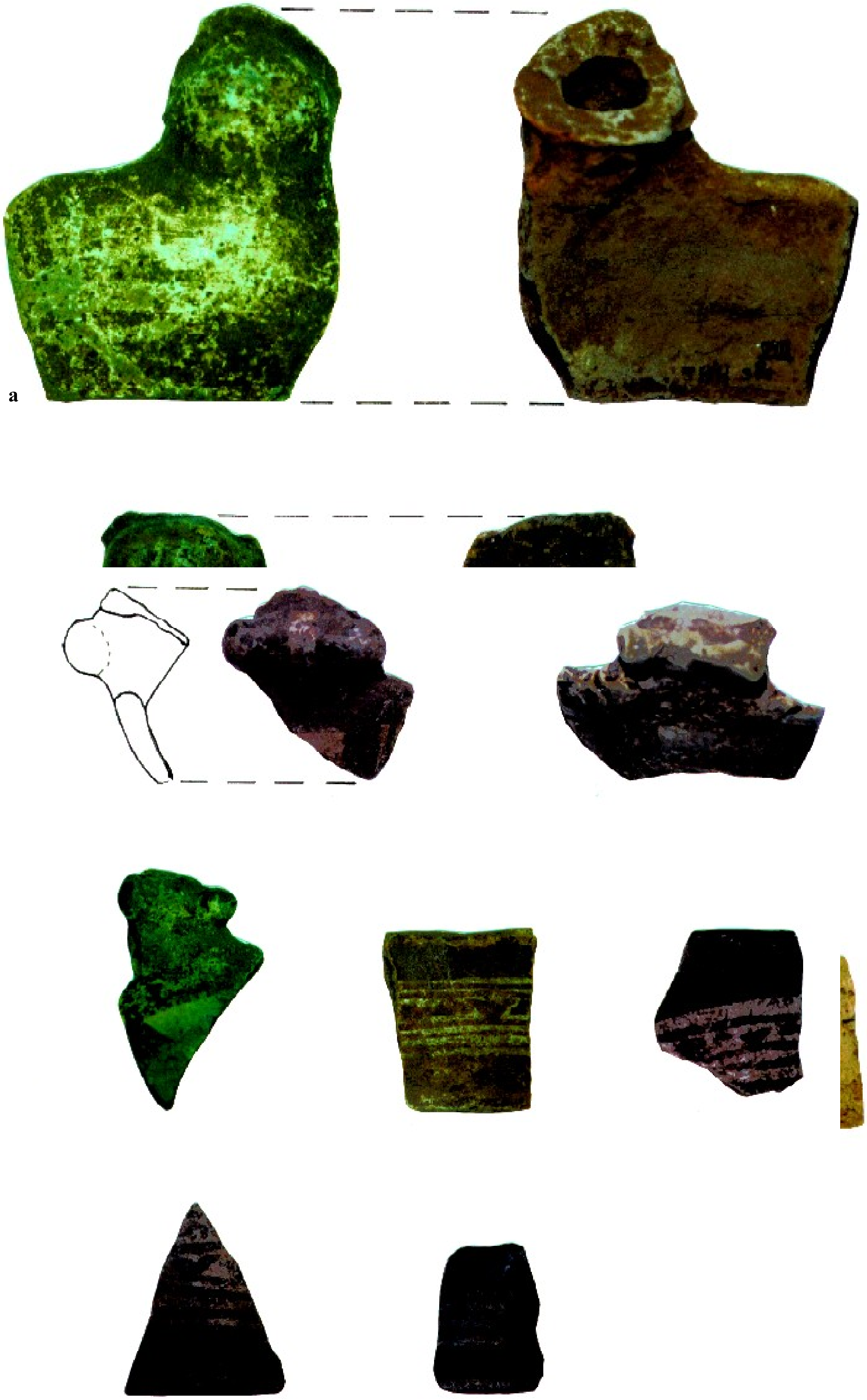


Figure 49. Tanki Flip/Henriquez, Shafted Bases. a. black-on-white painted, TF/H 140-5: base diameter 14 cm, b. black-on-white painted, TF/H 954-1: 12 cm, c. TF/H 862-1: ?, d. black-on-white painted, TF/H 10-3: 20 cm, e. black-on-white painted, TF/H 957-2: 10 cm, f. black-on-white painted, TF/H 150-37: 12 cm, g. black-on-white painted, TF/H 156-7: 12 cm. Scale 1:1.


a

b

c d e

Figure 50. Tanki Flip/Henriquez, Shafted Bases. Black-on-white painted shafted bases with a perforated leg support, a. TF/H 381-8: base diameter 16 cm, b. TF/H 274-1: 14 cm; c-d. shafted bases with perforations, c. black-on-white painted, TF/H 698-2: 10 cm (?), d. TF/H 869-1: 14 cm; e. black-on-plain painted shafted base, TF/H 150-140: 10 cm. Scale 1:1.

Figure 51. Tank Flip/Henriquez, Shafted Bases. Shafted bases with zoomorphic modelled (frog) leg supports, a. TF/H 150-36, b. TF/H 79-1, c. TF/H 178-2; shafted bases with the claviform motif, d. TF/H 150-11 B: base diameter 14 cm (?), e. TF/H 396-6: 14 cm (?), f. TF/H 51-1: 10 cm, g. TF/H 150-39: 8 cm. All shafted bases are painted black-on-white. Scale 1:1.

a

b

e

c d

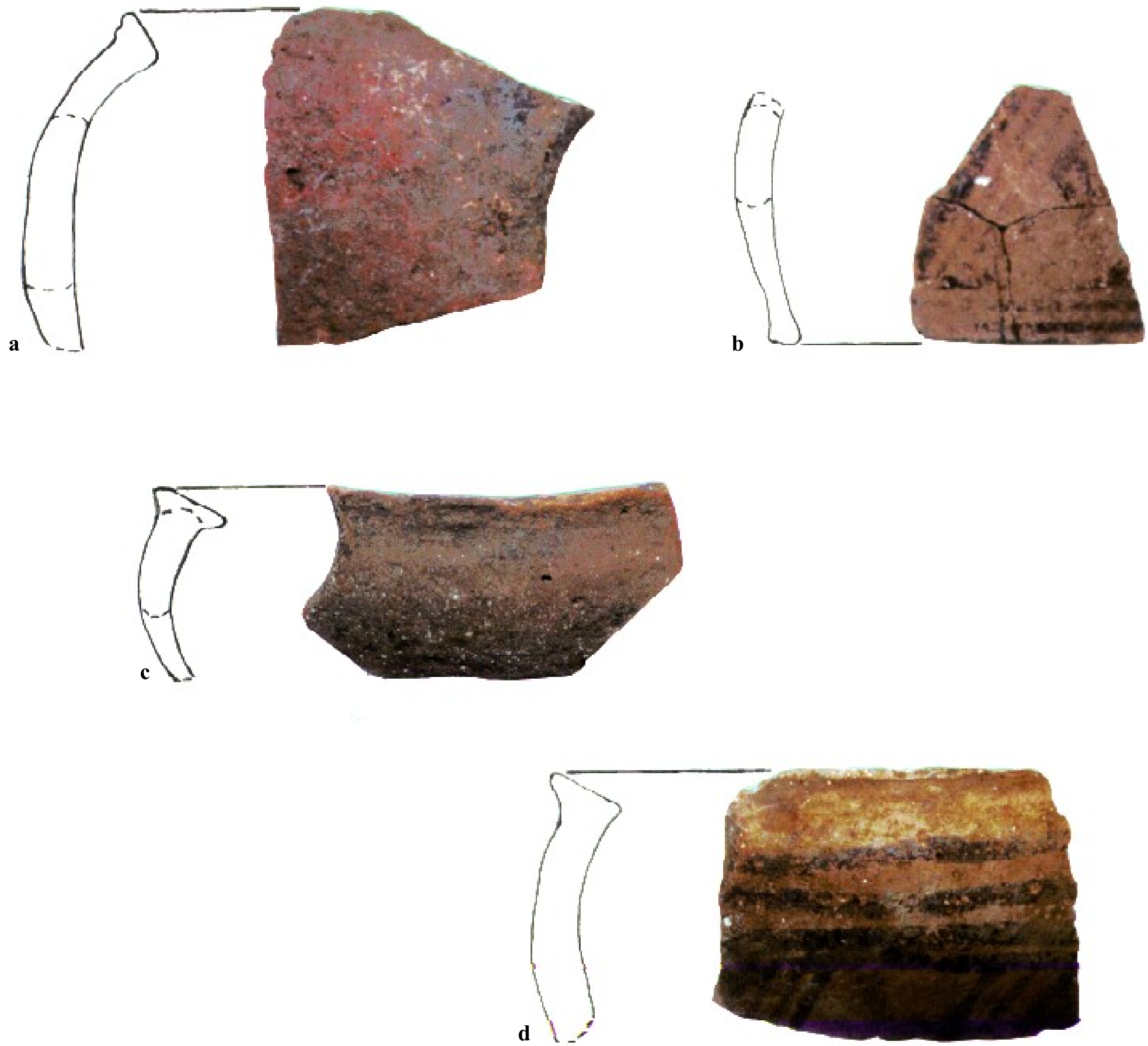


Figure 52. Tanki Flip/Henriquez, Bulbar Bases. a-c. Bulbar bases with a window, a. TF/H 468-1: base diameter ?, b. black-on-white painted, TF/H 156-4: 10 cm, c. TF/H 495-4: 18 cm (?); black-on-white painted bulbar base, d. TF/H 785 A-2; 14 cm (?). Scale 1:1.

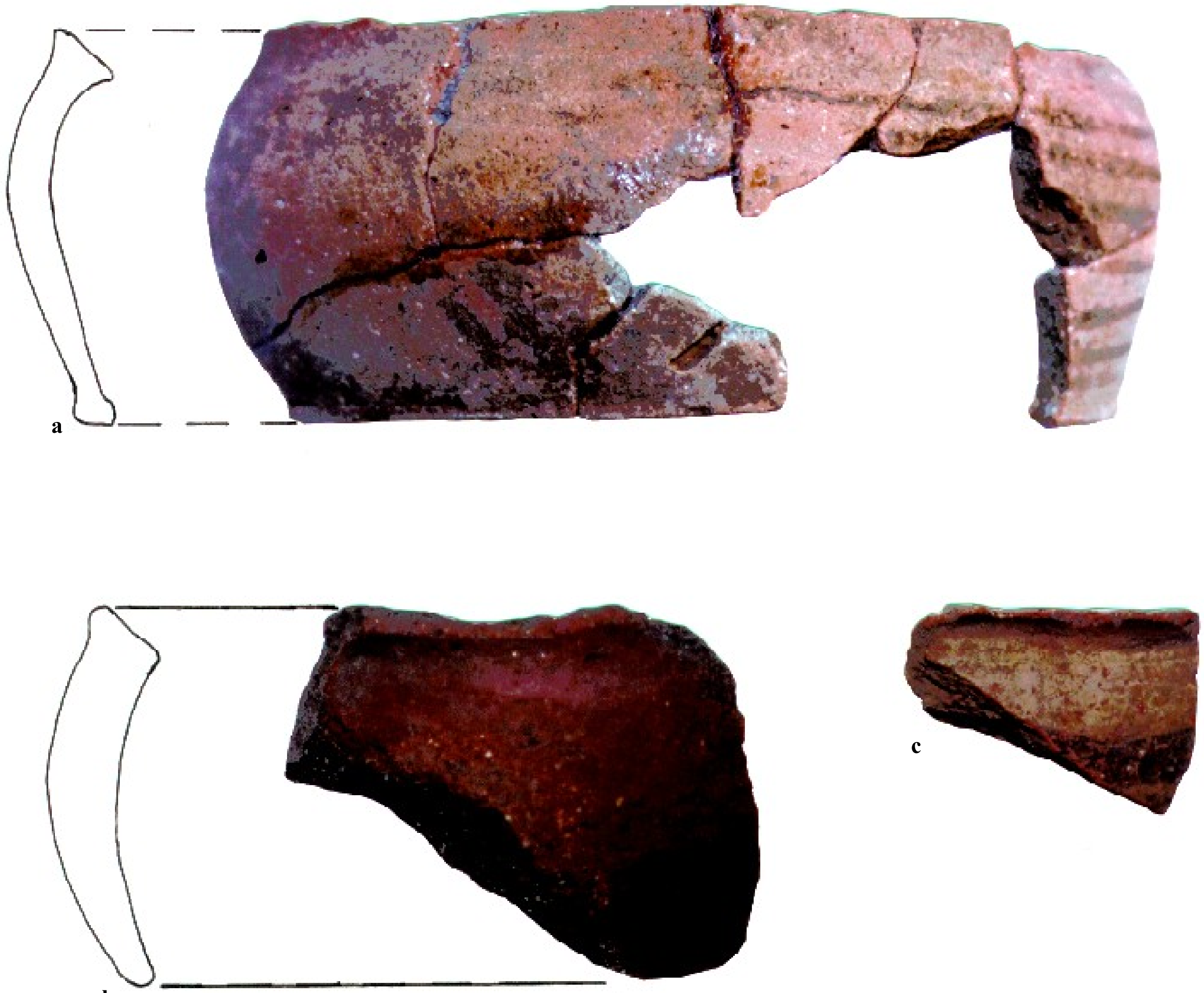
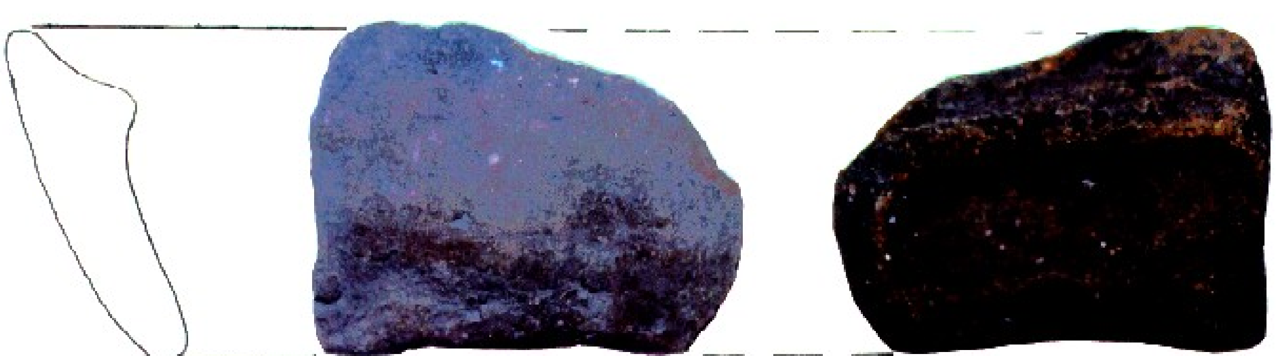


Figure 53. Tanki Flip/Henriquez, Bulbar Bases. a. black-on-plain painted, TF/F 985-1: base diameter 17 cm, b. TF/H 495-3: 14 cm, c. black-on-white painted, TF/H 842-1: 14cm (?). Scale 1:1.

a



b

Figure54. Tanki Flip/Henriquez, Annular Bases. a. annular base with a window, TF/H 30-3: base diameter 16 cm; b. TF/H 590 A-1: 10 cm. Scale 1:1.

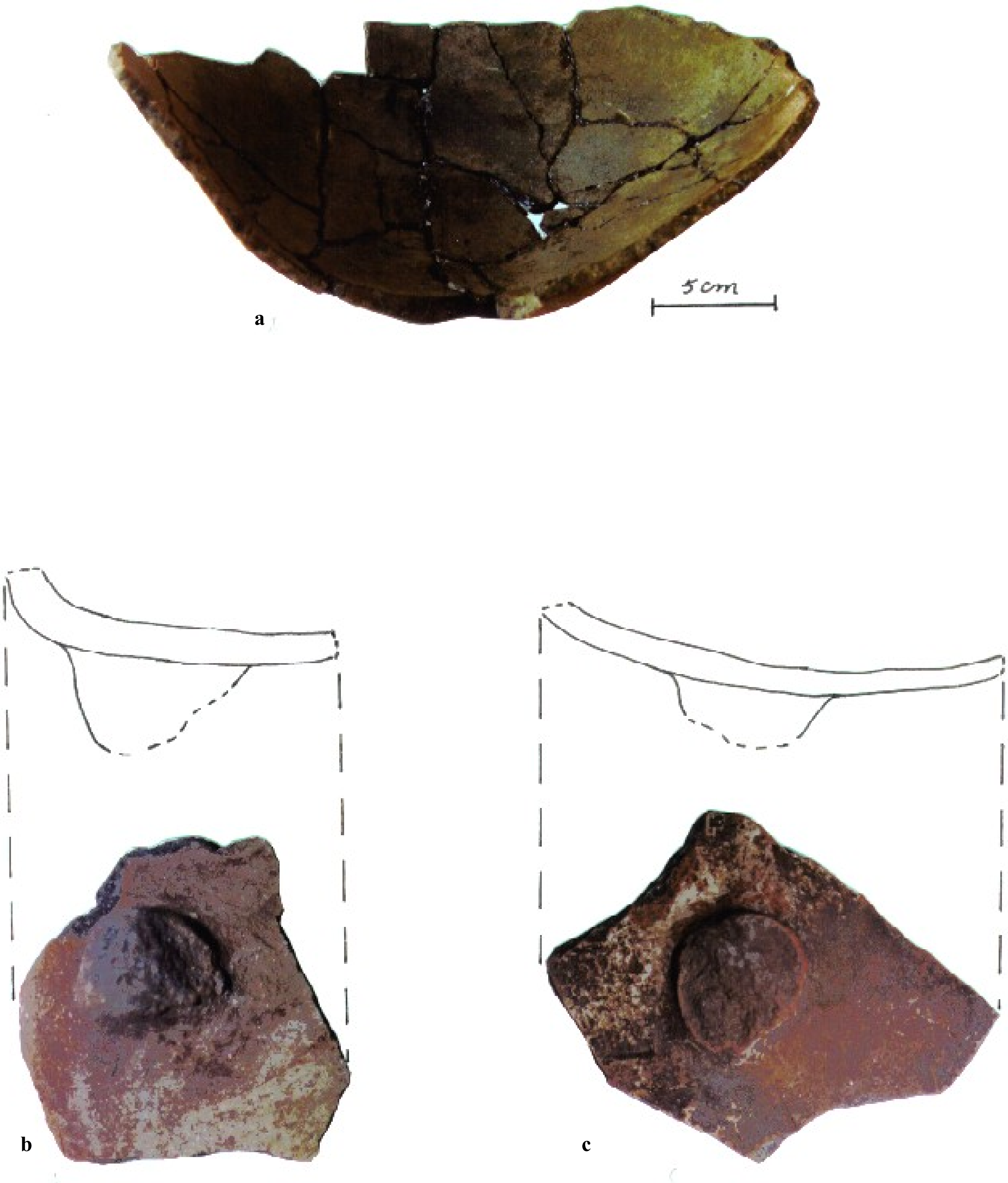


Figure 55. Tanki Flip/Henriquez, Convex Bases. a. TF/H 170-6; black-on-white painted convex bases with the negative evidence of a leg, b. TF/H 170-6, c. TF/H 150-33. Scale 1:1, except a..

a

b

c

Figure 56. Tanki Flip/Henriquez, Flat Bases. a. TF/H 150-43: base diameter 10 cm, b. TF/H 343-9: 16 cm, c. TF/H 469-2: 10 cm. Scale 1:1, except c.

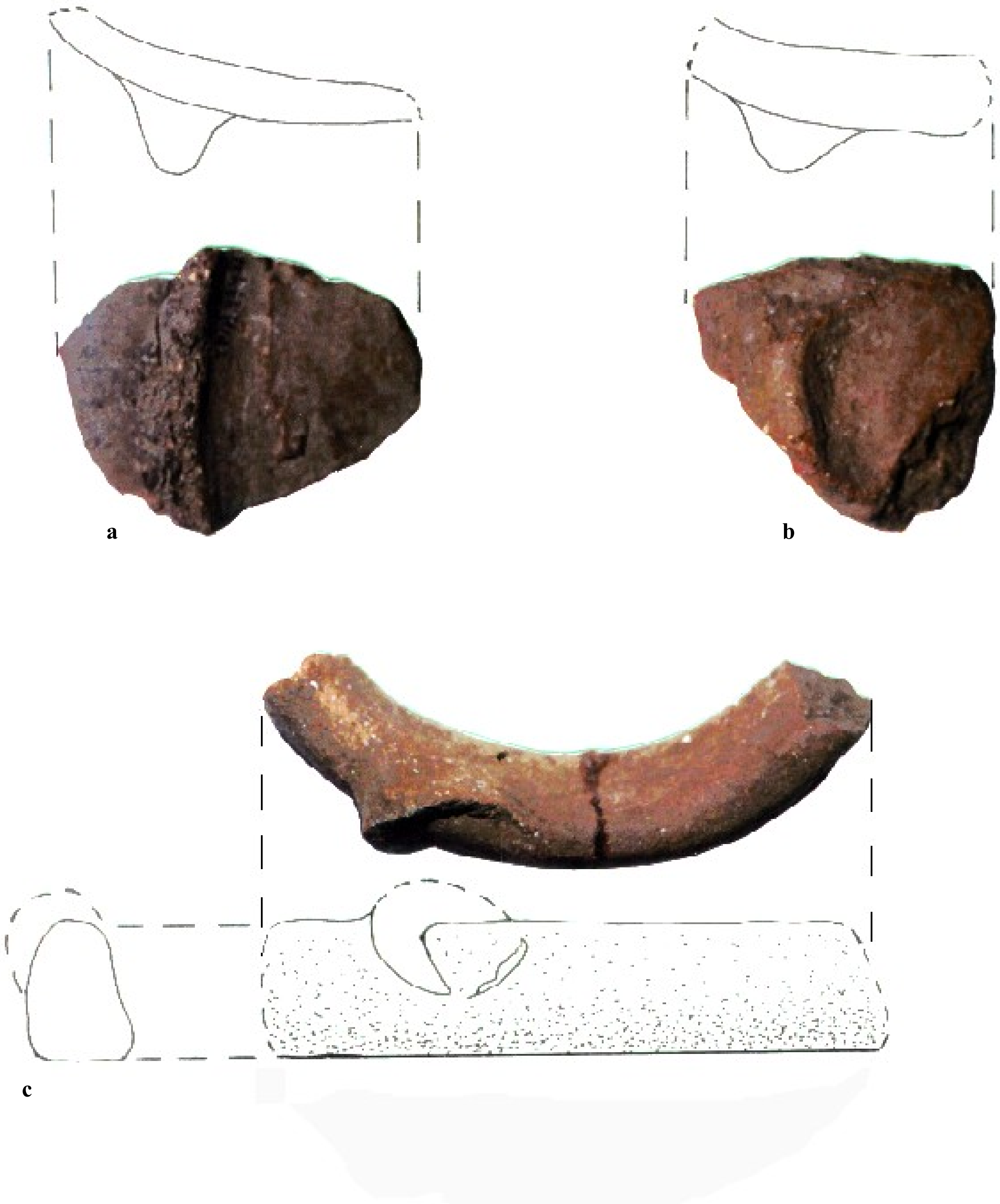


Figure 57. Tanki Flip/Henriquez, Base-rings and Leg-ring Base. a-b. Base-rings, a. TF/H 474-2: base diameter 12 cm, b. TF/H 582-4: 6 cm; leg-ring base, c. TF/H 150-42: 10cm. Scale 1:1.

8.1.3 Griddles

Of the total of 29 griddle sherds were recovered, of which 12 could be identified. Nine were rounded (75%), and three were straight (25%). The measurements were taken separately for these two categories:

1. Rounded (*fig. 58*): the average diameter is 26.2 cm, with a minimal diameter of 18 cm, and a maximal diameter of 40 cm. The average rim thickness is 15.8 mm, with a minimal rim thickness of 11 mm, and a maximal rim thickness of 22 mm. The average thickness of the baking surface is 15 mm, with a minimal thickness of the baking surface of 12 mm, and a maximal thickness of the baking surface of 19 mm.
2. Straight (*fig. 59*): the average diameter is 29.3 cm, with a minimal diameter of 26 cm, and a maximal diameter of 32 cm. The average rim thickness is 14 mm, with a minimal rim thickness of 10 mm, and a maximal rim thickness of 16 mm. The average thickness of the baking surface is 17.6 mm, with a minimal thickness of the baking surface of 15 mm, and a maximal thickness of the baking surface of 20 mm.

All twelve griddles were identified as aripos, with only two possible budares, as they were relatively thick, but the diameter was that of an aripo. One rounded, and one straight aripo have reed (twig leaf) impressions (*fig. 60*).

The total average diameter is 29.5 cm (min. 18 cm, max. 40 cm), the total average rim thickness is 15.3 mm (min. 11 mm, max. 22 mm), and the total average of the baking surface is 16.4 mm (min. 12 mm, max. 12 mm).

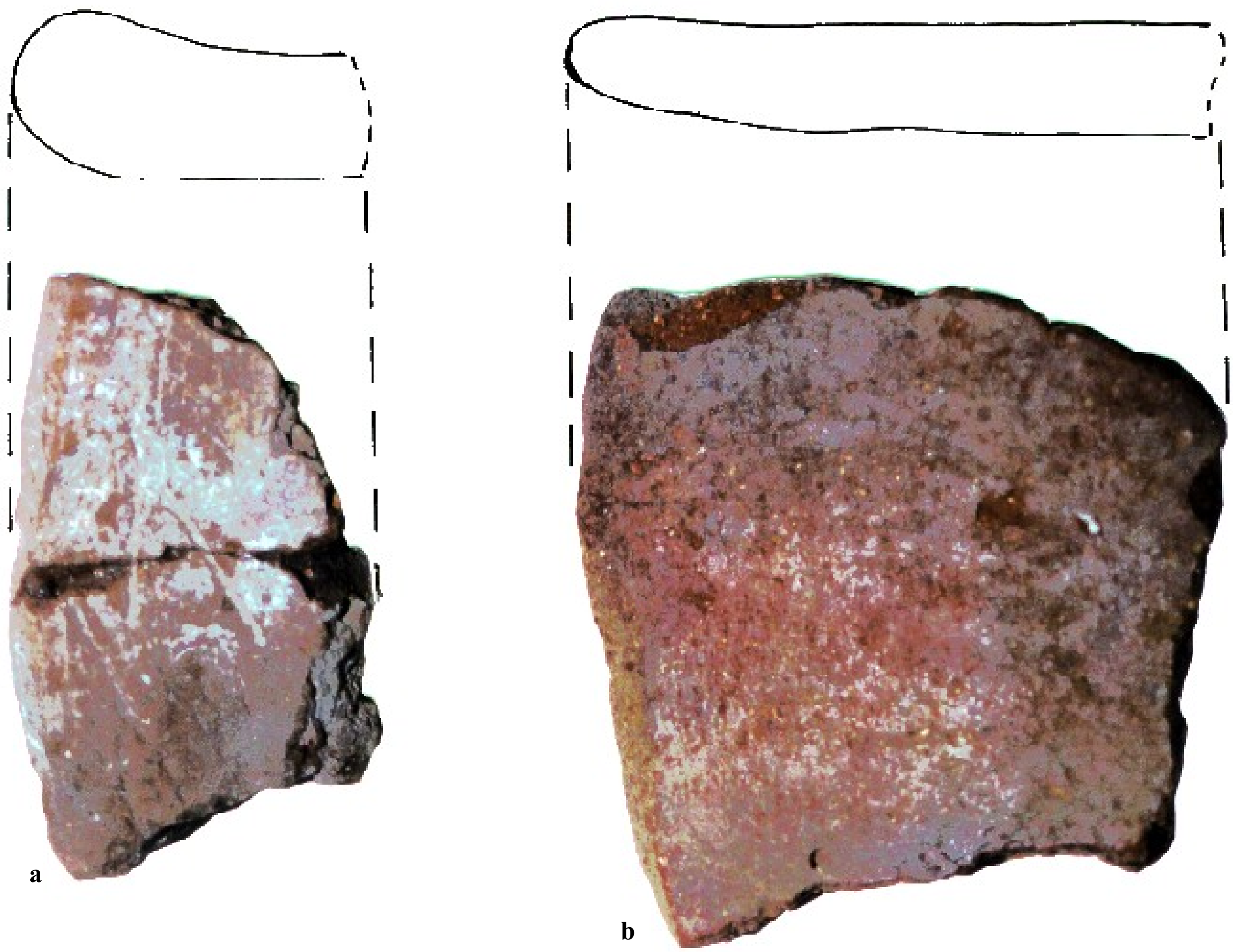


Figure 58. Tanki Flip/Henriquez, Rounded Griddle Rim Shapes. a. TF/H 210-1: diameter 26 cm, b. TF/H 368-2: 26 cm. Scale 1:1.

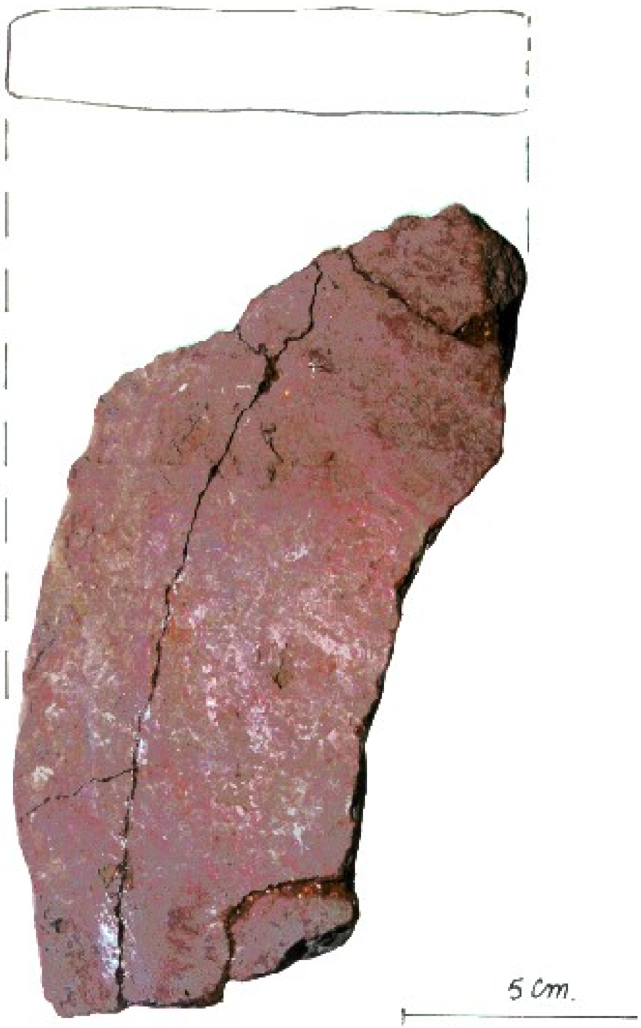


Figure 59. Tanki Flip/Henriquez, Straight Griddle Rim Shape. TF/H 301-3: diameter 32 cm.

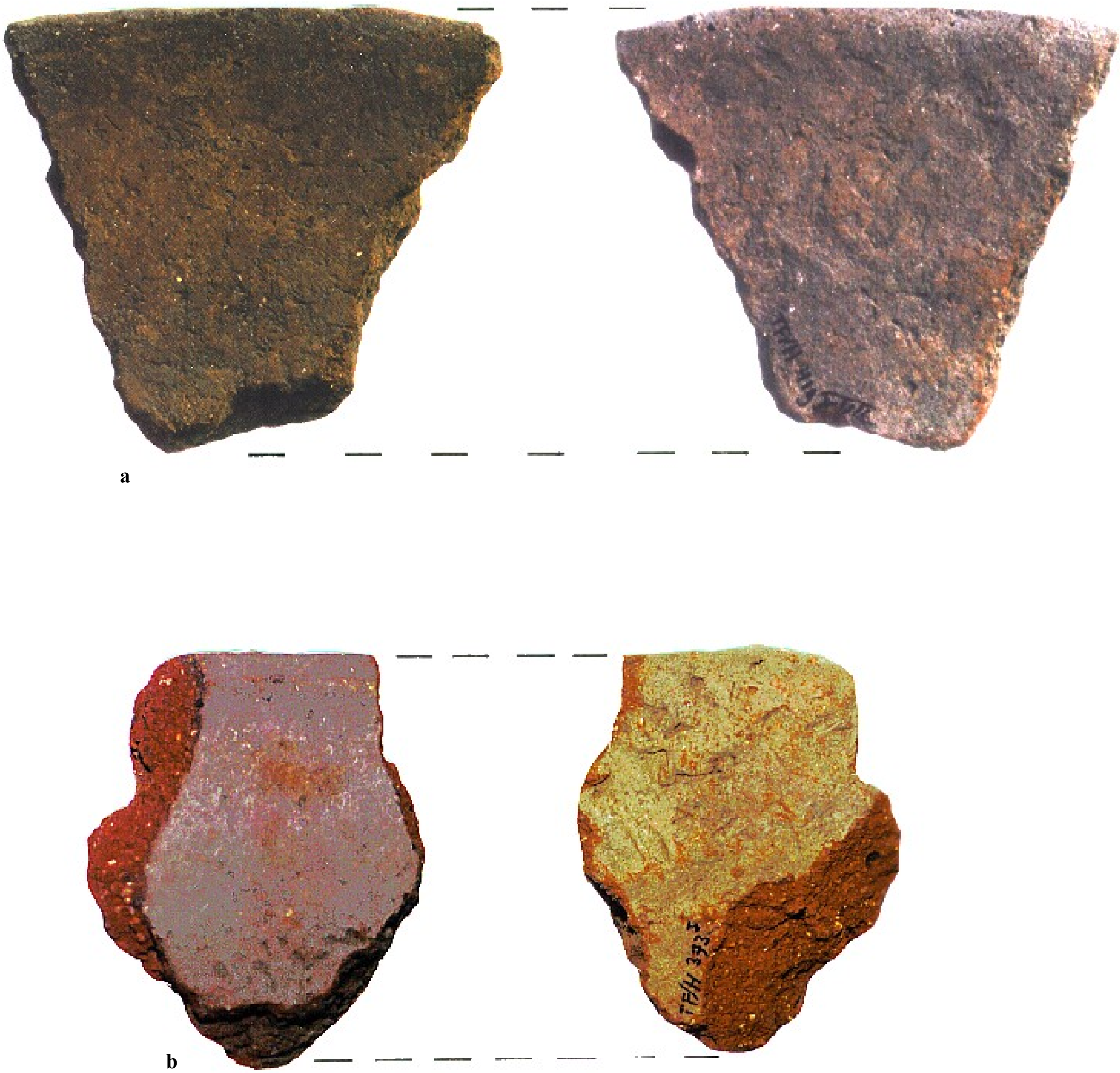


Figure 60. Tanki Flip/Henriquez, Griddles with Reed Impressions. a. rounded griddle, TF/H 419-17: diameter 40 cm, b. straight griddle, TF/H 373-1: 30 cm. Scale 1:1.

8.1.4 Decoration Modes

8.1.4.1 Introduction

Of all decorated sherds, the decoration modes could be determined, but a lot of times, due to severe erosion, decoration was affected, especially the painting attributes suffered. As already mentioned, when a sherd had more than one decoration attribute, the main category was listed, but I kept a separate list with the different combinations of decoration attributes, which I'll also treat here.

A total of 484 sherds were decorated, which is 4.9% of the total amount of the investigated sherds.

8.1.4.2 The Different Decoration Modes

Black-on-white

A total of 186 sherds are painted black-on-white (38.5%), of which 110 are *black*-on-white, 75 *reddish-brown*-on-white, and 1 is *brown*-on-white painted. It is obvious for me that all different black gradations were meant to be **black**, and the differences are due to erosion (post depositional processes), lack of black pigments in the painting, or because the painting was done after firing, so all should be considered as black-on-white (*fig. 61-62*).

Painting-on-plain (black-on-plain)

Of the painting-on-plain, 69 sherds are painted black-on-plain (14.3%), including the different gradations of black (*fig. 63*).

Black-on-red

There are only 5 sherds painted black-on-red (1%) (*fig. 64a-b*).

Black and red-on-plain

A total of 8 sherds are painted black and red-on-plain (1.7%) (*figs. 64c-e, 72j, B-23a*).

Polychrome Painting

There are 16 polychrome painted sherds (3.3%), of which 13 are painted black and red-on-white (*figs. 64i-k*, *65*, *B-28a*) and 3 are painted black and red-on-orange (*fig. 64f-h*).

Red-on-white and brown-on-brown

No sherd was painted red-on-white (0%), while only 1 sherd is painted brown-on-brown (0.2%) (*fig. 66a*).

Nubbins

Only three nubbins were identified[49] (0.6%) (*fig*. *66b-c*).

Incision, Punctation, Hollow Punctation, Arches

There were 2 sherds with incision (0.4%) as it is mostly an auxiliary decorative technique (e.g. *figs. 70a*, *c-e*, *71j*). Only two sherds have punctation (0.4%) because it is generally used as an auxiliary decorative technique (figs. *66d*, *71g-h*, *80a*). No sherds were present having hollow punctation (0%) or arches (0%).

Perforation

A total of 18 sherds were perforated (3.7%) (*fig*. *66e-h*).

Finger Indentation

There were 36 sherds present with finger indentation (7.4%), which are all rim sherds with at least one coil (*figs*. *B-1*, *B-2a*).

Coiled Decoration

A total of 33 rims had a coiled decoration (6.8%) (*figs*. *B-1 to B-4a*), which are divided as follows:

1. Two coils, with finger indentation: 13
2. Three coils, with finger indentation: 1
3. Four coils, with finger indentation: 1
4. Five coils, with finger indentation: 0
5. Two coils, without finger indentation: 17
6. Three coils, without finger indentation: 1
7. Four coils, without finger indentation: 0
8. Five coils, without finger indentation: 0

The presence of corrugated rims with mostly two coils, and occasionally three or four coils, is not a real surprise, and rims with more coils (up to seven) are mostly found on Curaçao and Bonaire (Ayubi *et al*., 1985:397).

[49] Some geometric nubbins of the coffee-bean type were coded as modelling anthropomorphic, because they represent the eyes of an anthropomorphic face (*fig. 70d-g*).

Modelling

Modelling (appliqué) is represented by 96 sherds (19.8%), of which 57 (11.8%) were decorated with geometric modelled appliqués (*fig. 67*), 26 (5.4%) with zoomorphic modelled appliqués including bird- bat- and frog[50]-rerpresentations (*fig. 68-69*), and 13 (2.7%) with anthropomorphic modelled appliqués (*fig. 70*).

Other

The other decorations not on the list were:

1. Red-on-plain: 1 sherd (0.2%) (*fig. 71a*).
2. Black-on-orange: 3 sherds (0.6%) (*fig. 71b-c*).
3. Red painted: 1 sherd (0.2%).
4. White painted: 3 sherds (0.6%).
5. Punctated cane impression (or corn kernel stamped): 1 sherd (0.2%) (*fig. B-13a*).

Combinations of Decoration Modes

A total of 77 sherds (15.9%) had 2 or more decorative modes (e.g. *fig. 71d-j*):

1. Geometric modelling: 14 black-on-white, 4 black-on-plain (1 also with 2 perforations), 2 with incision, 2 with punctation, and 2 with white paint (total: 24 of 57).
2. Zoomorphic modelling: 20 with black-on-white paint (1 also with geometric modelling), and 3 are black-on-plain (total: 23 of 26) .
3. Anthrophomorphic modelling: 4 black-on-white (1 also with geometric modelling and a perforation), 1 polychrome painted, 1 with black and red-on-plain paint, 4 with incision, 1 with punctation, 1 with a perforation (total: 12 of 13).
4. Black-on-white: 12 with perforation, 1 with incision (total: 13 of 186).
5. White paint: 1 with perforation (total: 1of 3).
6. Brown-on-brown: 1 with anthropomorphic modelling(total: 1 of 1).
7. Black-on-plain: 1 with a perforation (total: 1 of 69).
8. Black-on-orange: 1 with a perforation (total: 1 of 3).
9. Nubbins: 1 black-on-plain (total: 1 of 3).
10. Black and red-on-plain: 1 with anthropomorphic modelling (total: 1 of 8).

[50] Although I have to mention that sometimes they look like snails.

8.1.4.3 Slip

A total of 110 sherds were recorded that surely were slipped, which is 1.1% of the total assemblage. Of the slipped sherds, 101 sherds had white slip (91.8%), 6 had red slip (5.5%), and 3 had brown slip (2.7%).

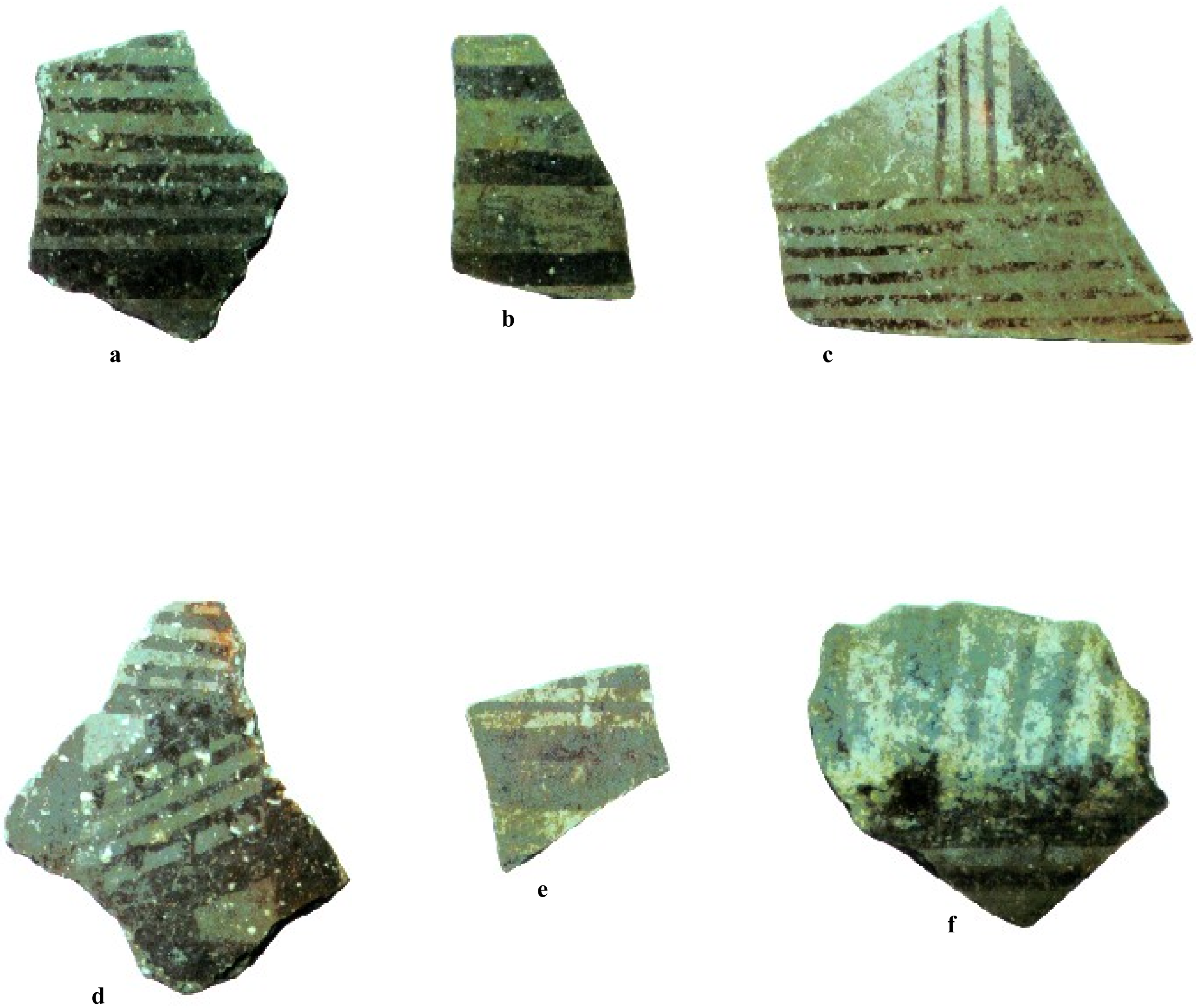


Figure 61. Tanki Flip/Henriquez, Black-on-white Painted Sherds. a. TF/H 357-6, b. TF/H 190-11, c. TF/H 178-4, d. TF/H 131-8, e. TF/H 150-5, f. TF/H 2-11. Scale 1:1.

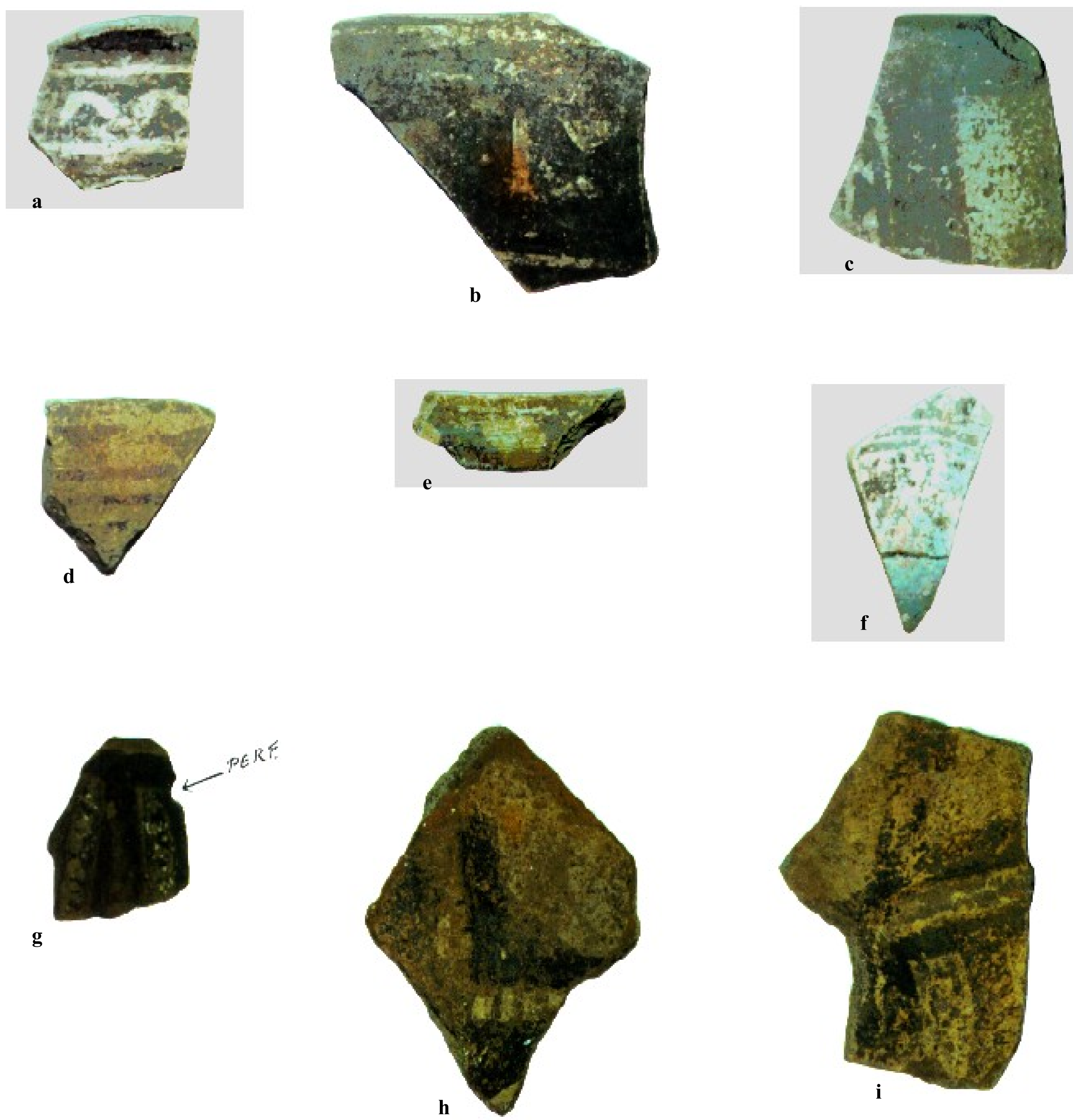


Figure 62. Tanki Flip/Henriquez, Black-on-white Painted Sherds. a. sinuous curvilinear band design, TF/H 357-2, b. TF/H 215-3, c. TF/H 150-12, d. TF/H 343-14, e. diamond-like motif, TF/H 396-7, f. radial sun motif, TF/H 170-7, sherd with two dotted appliqué fillets and a perforation, TF/H 988-1, h. geometric modelled appliqué, TF/H 359-9, i. one appliqué strip, TF/H 540-3. Scale 1:1.

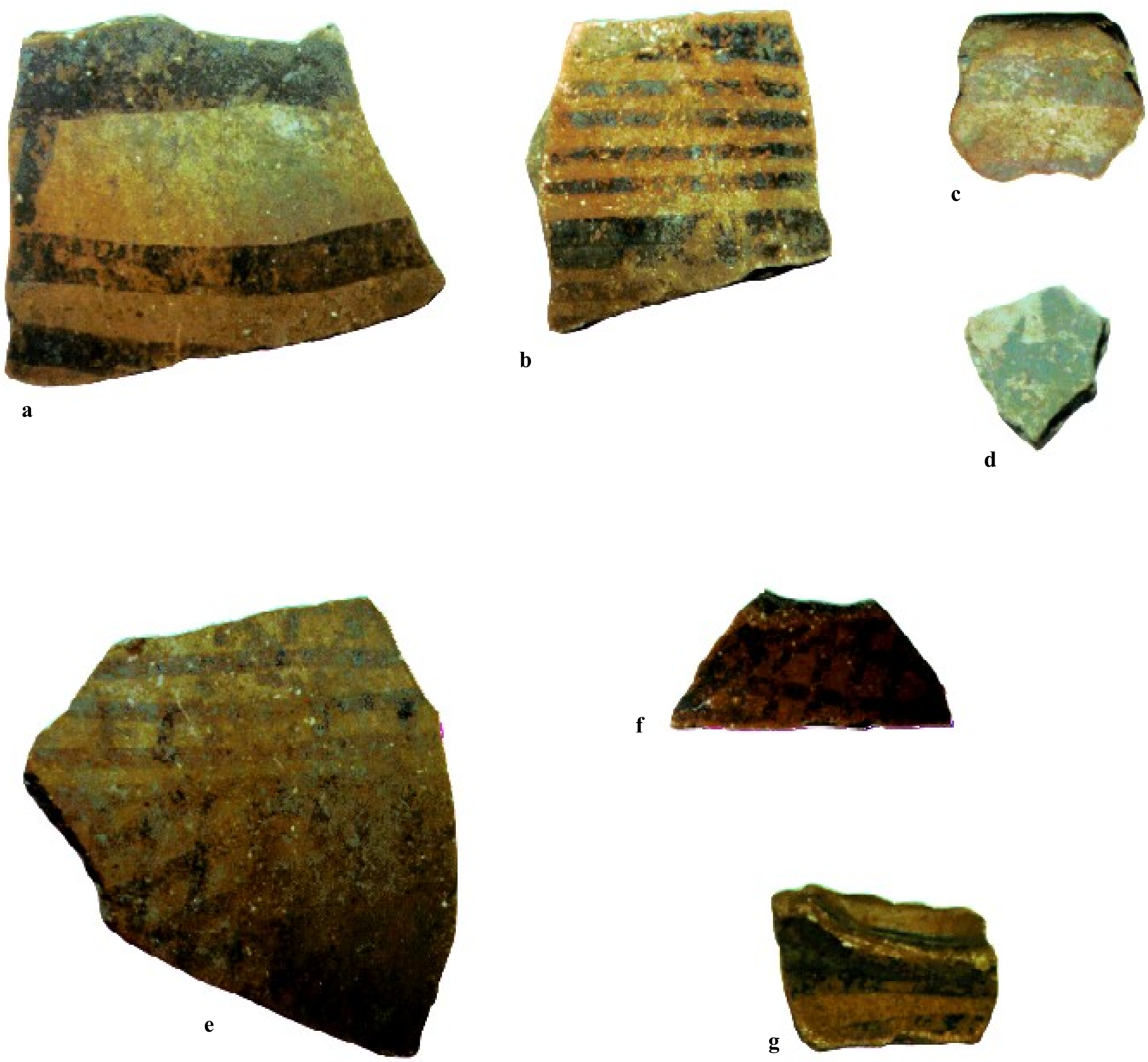


Figure 63. Tanki Flip/Henriquez, Black-on-plain Painted Sherds. a. TF/H 156-6, b. TF/H 150-3, c. TF/H 37-2, d. TF/H 474-3, e. TF/H 427-2, f. TF/H 150-4, g. one appliqué strip, TF/H 150-21. Scale 1:1.

Figure 64. Tanki Flip/Henriquez, Painted Sherds. Black-on-red painted sherds, a. TF/H 653-2, b. TF/H 150-13; black and red-on-plain painted sherds, c. TF/H 111-2, d. TF/H 332-4, e. TF/H 190-15; black and red-on-orange painted sherds, f. TF/H 150-1, g. TF/H 150-2, h. TF/H 150-8; black and red-on-white painted sherds, i. TF/H 590 A-10, j. TF/H 839-1, k. TF/H 156-3. Scale 1:1.

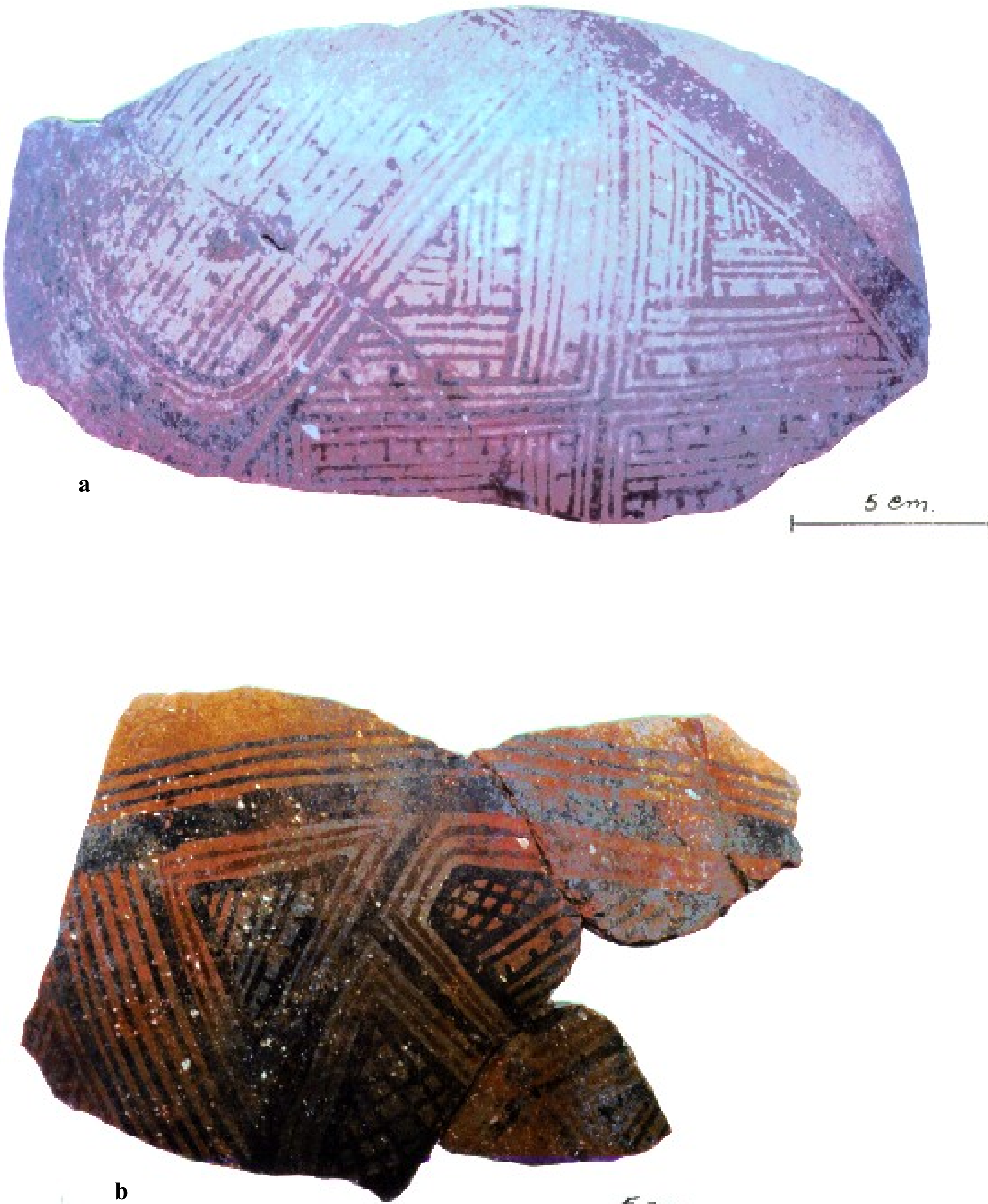


Figure 65. Tanki Flip/Henriquez, Polychrome Painted Sherds. a. TF/H 1-1, b. TF/H 1-2.

Figure 66. Tanki Flip/Henriquez, Decorated Sherds. a. brown-on-brown painted sherd with an anthropomorphic modelling inside, TF/H 19-2; nubbins, b. black-on-plain painted, TF/H 150-29, c. TF/H 810-1; d. punctation, TF/H 553-7; perforated sherds, e. sherd with a drilled hole, TF/H 380-1, f. TF/H 809-1, g. TF/H 813-1, h. TF/H 590 A-6. Scale 1:1.

Figure 67. Tanki Flip/Henriquez, Geometric Modelling. a. TF/H 421-3, b. TF/H 381-10, c. TF/H 150-20, d. TF/H 150-17, e. TF/H 267-2, f. TF/H 418-2, g. TF/H 387-6, h. TF/H 436-3, i. TF/H 150-26. Scale 1:1.

Figure 68. Tanki Flip/Henriquez, Zoomorphic Modelling. Black-on-white painted zoomorphic modelled appliqués representing the head of a bird, a. TF/H 419-18, b. TF/H 357-5; black-on-white painted zoomorphic modelled appliqués representing the head of a bat, c. TF/H 179-a, d. TF/H 190-10; unidentified zoomorphic modelled appliqués, e. black-on-white painted TF/H 69A-1, f. black-on-white painted, TF/H 140-5, g. TF/H 38-1 (frog ?), h. TF/H 618-3. Scale 1:1.

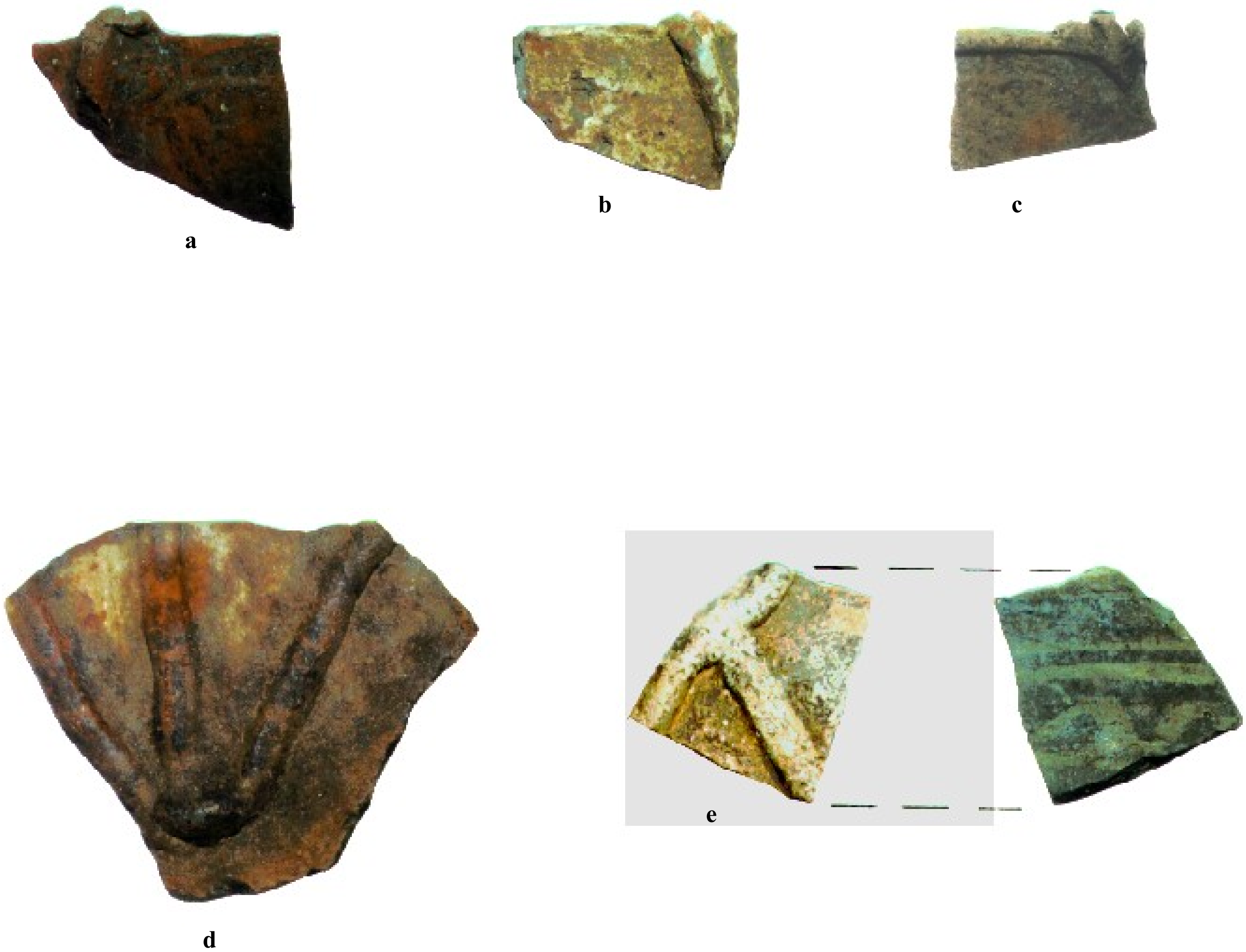


Figure 69. Tanki Flip/Henriquez, Zoomorphic Modelling. a-c. Black-on-white painted rim sherds with the feet of the batracian modelled appliqué, a. TF/H 27-1, b. TF/H 396-2, c. TF/H 150-15; d. unidentified zoomorphic appliqué, TF/H 358-3, e. part of the body of a batracian modelled appliqué painted black-on-white on the outside and inside (sinuous curvilinear band design), TF/H 215-5. Scale 1:1.

Figure 70. Tanki Flip/Henriquez, Anthropomorphic Modelling. a. anthropomorphic modelled appliqué with eye*s* acentuated by perforations, and with 3 insicions on each side of the nose, TF/H 18-5, b. black-on-white painted anthropomorphic modelling with coffee-bean eyes and nostrils accentuated by punctation, TF/H 387-2, c-e. anthropomorphic appliqués with coffee-bean eyes and short insicions under the eyes, TF/H 150-14, d. TF/H 478-1, e. TF/H 495-5; coffee-bean eyes of an anthropomorphic appliqué, f. TH/H 654-3, g. TF/H 497-4. Scale 1:1.

Figure 71. Tanki Flip/Henriquez, Decorated Sherdsa. a. red-on-plain, TF/H 283-7; black-on-orange painted sherds, b. TF/H 2-10, c. TF/H 140-13; black-on-white painted perforated sherds, d. TF/H 697-1, e. TF/H 755-1, f. TF/H 215-1; punctated appliqué fillets, g. sigmoid modelling, TF/H 553-6, h. TF/H 647-2; incised appliqué fillets, i. TF/H 131-4, j. TF/H 357-9. Scale 1:1.

8.1.5 Appendages/other

The total appendages/other category comprises of 136 sherds, which included:

1. 38 clay discs (27.9%) of different sizes, thicknesses, and decorations (*fig. 72*); the average diameter is 3.6 cm, with the smallest clay disc having a diameter of 1.8 cm, and the biggest having a diameter of 5.7 cm. The average thickness is 8.2 mm, with a minimal thickness of 5 mm, and a maximal thickness of 13 mm. Five clay discs are decorated. Clay discs are recycled sherds, while the function of these discs is unknown.
2. 26 legs (19.1%), including hollow legs belonging to tripod vessels (*fig. 73*), and 'D-shaped' solid legs belonging to tetrapod biomorphic drinking bowls (*fig. 74a-d*). Other kinds of legs were present (*fig. 74e-i*), while different legs were decorated.
3. 22 handles (16.2%) of different shapes (*fig. 75*), like a bridge-spout handle, "two-coiled" handles, but they are mostly rounded.
4. 18 lugs (13.2%) including side lugs of which two have a central perforation (*fig. 76a-e*), and rim lugs of which a claviform lug is frequently found (*figs. 76f-j*, *77a-b*), although not all present rim lugs are included, because some were coded as rims (total lugs would be 23). Most of the lugs are also painted. Important to mention are the 4 tabular lip extensions, which belong to vessels with hollow rims and shafted bases (*fig. 77c-f*).
5. No cylindrical potstands were identified, although 6 *possible* potstands (4.4%) were present. These are recycled (secondary manufactured) flat bases (*fig. 78*). The average diameter is 6.8 cm, with a minimal diameter of 6 cm, and a maximal diameter of 8 cm. The average thickness is 12.7 mm, with a minimal thickness of 8 mm, and a maximal thickness of 20 mm.
6. 2 spouts (1.5%), both are painted black on white, and one is zoomorphically modelled (*fig. 79a-b*); the latter belonged to a tetrapod biomorphic drinking bowl.
7. 1 spindle whorl (0.7%), which has a diameter of 3.3 cm, and the hole (perforation) has a diameter of 1 cm (*fig. 79c*).
8. 0 incense burners were found (0%).

The blank category consists of :

1. 12 unidentified sherds (8.8%) (*fig. 79g*).
2. 7 clay lump pieces (5%).
3. 3 oval (ovaloid) clay discs (2.2%) (*fig. 79d-f*).
4. 2 sitting figurines (1.5%), which are both decorated (*fig. 80*).
5. 1 sherd (0.7%), possibly secondarily manufactured, representing a human face (*fig. 79h*).

Figure 72. Tanki Flip/Henriquez, Clay Discs. a. TF/H 346-1, b. TF/H 469-3, c. TF/H 36-2, d. TF/H 653-5, e. TF/H 689-1, f. TF/H 343-7; decorated clay discs, g. black-on-white painted, TF/H 650-8, h. black-on-plain painted, TF/H 30-4, i. black-on-white painted with an appliqué strip, TF/H 54-1, j. black and red-on-plain painted, TF/H 301-2, k. clay disc with drilled holes, TF/H 682-7. Scale 1:1.

a

b

Figure 73. Tanki Flip/Henriquez, Hollow Legs. a. black-on-white painted anthropomorphic modelled hollow leg, TF/H 925-1, b. hollow leg with a lug, TF/H 5-4. Scale 1:1.

Figure 74. Tanki Flip/Henriquez, Legs. a-d. Black-on-white painted solid D-shaped legs, a. TF/H 159-5, b. TF/H 419-20, c. zoomorphic modelled D-shaped leg, c. TF/H 255-1, d. TF/H 932-2; other solid legs, e. leg with short insicions to depict a foot, TF/H 653-2, f. TF/H 131-6, g. black-on-white painted, TF/H 393-1, h. TF/H 436-2, i. TF/H 387-4. Scale 1:1.

Figure 75. Tanki Flip/Henriquez, Handles. a. black-on-white painted bridge-spout handle, TF/H 159-4; b-c two-coiled handles, TF/H 581-1, c. TF/H 150-30; d. black-on-white painted handle, TF/H 18-6; tubular handles, e. TF/H 653-3, f. TF/H 541-1, g. TF/H 678-4, h. TF/H 540-2. Scale 1:1.

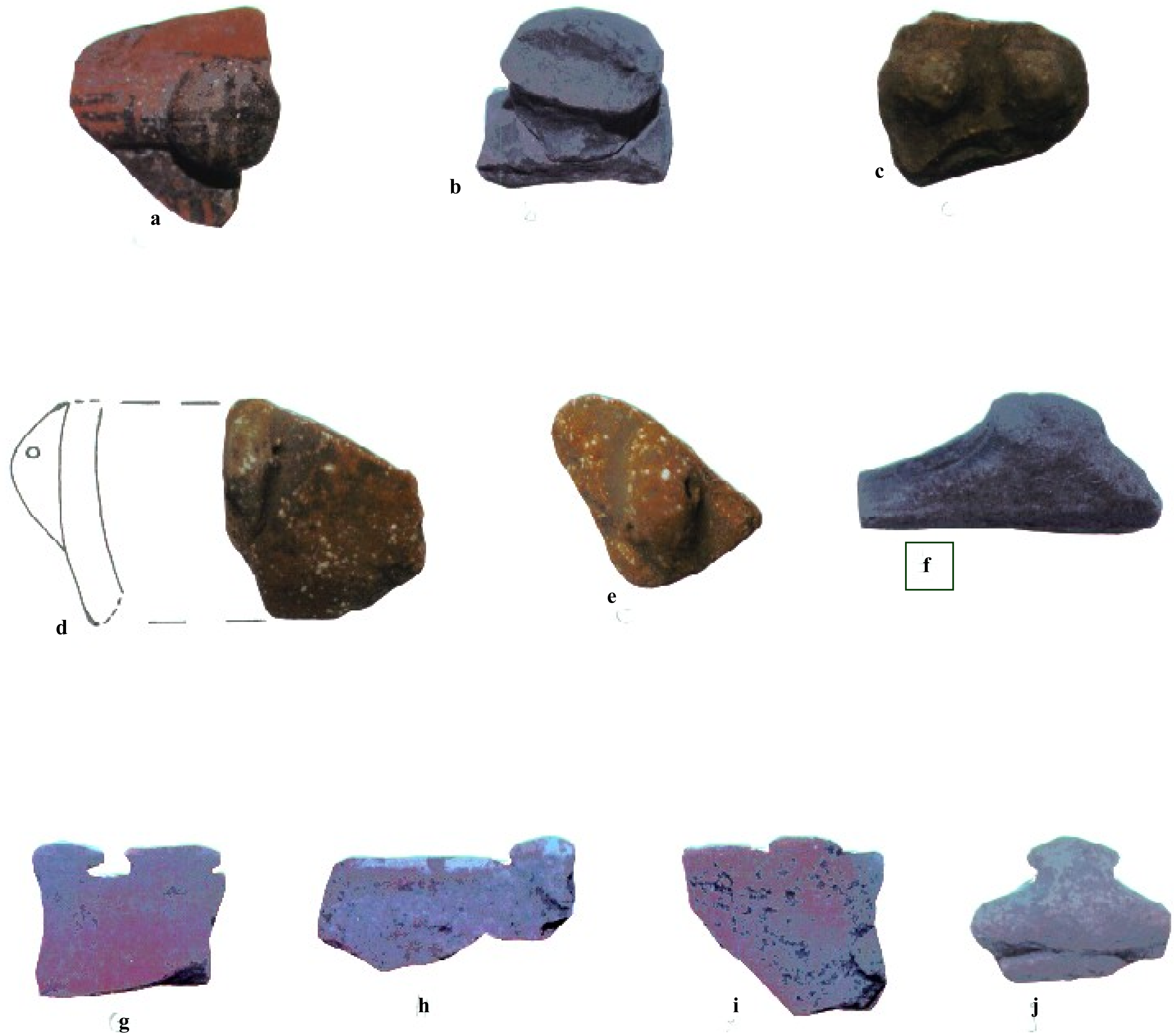


Figure 76. Tanki Flip/Henriquez, Lugs. Side lugs, a. black-on-plain painted with an appliqué strip, TF/H 190-9, b. black-on-white painted, TF/H 650-9, c. TF/H 150-31, d-e. side lugs with a central perforation, d. TF/H 150-28, e. TF/H 650-7; rim lugs, f. TF/H 61-3, g-j. black-on-white painted clavoform rim lugs, g. TF/H 150-27, h. TF/H 419-24, i. TF/H 542-1, j. TF/H 393-3. Scale 1:1.

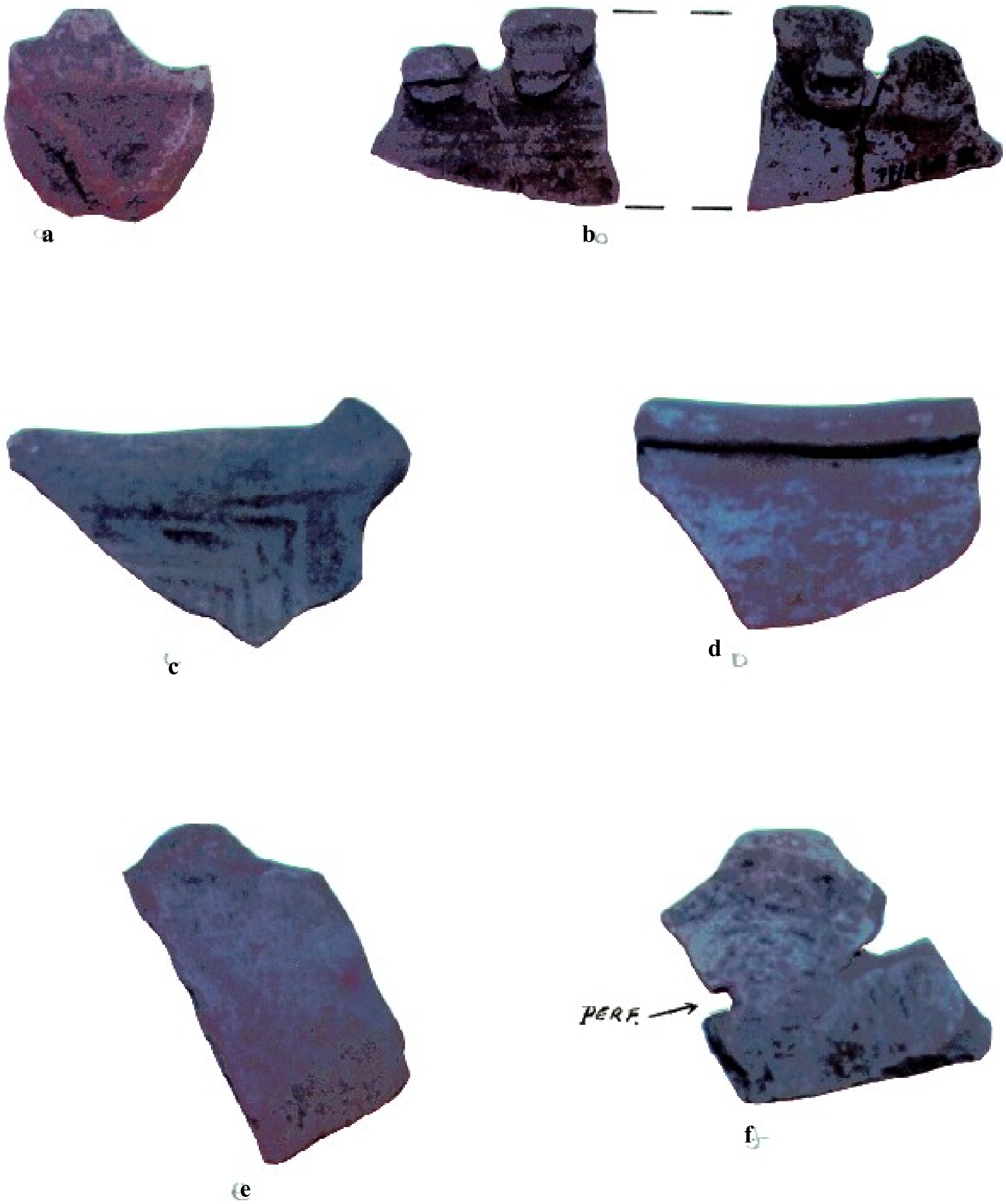


Figure 77. Tanki Flip/Henriquez, Lugs. Black-on-white painted rim lugs with modelling, a. TF/H 682-9, b. TF/H 628-3; black-on-white painted tabular lip extensions, c. TF/H 131-3, d. TF/H 678-4, e. TF/H 678-3, f. TF/H 7-1. Scale 1:1.

a

b

Figure 78. Tanki Flip/Henriquez, Recycled Bases. a. TF/H 647-3, b. TF/H 489-3. Scale 1:1.

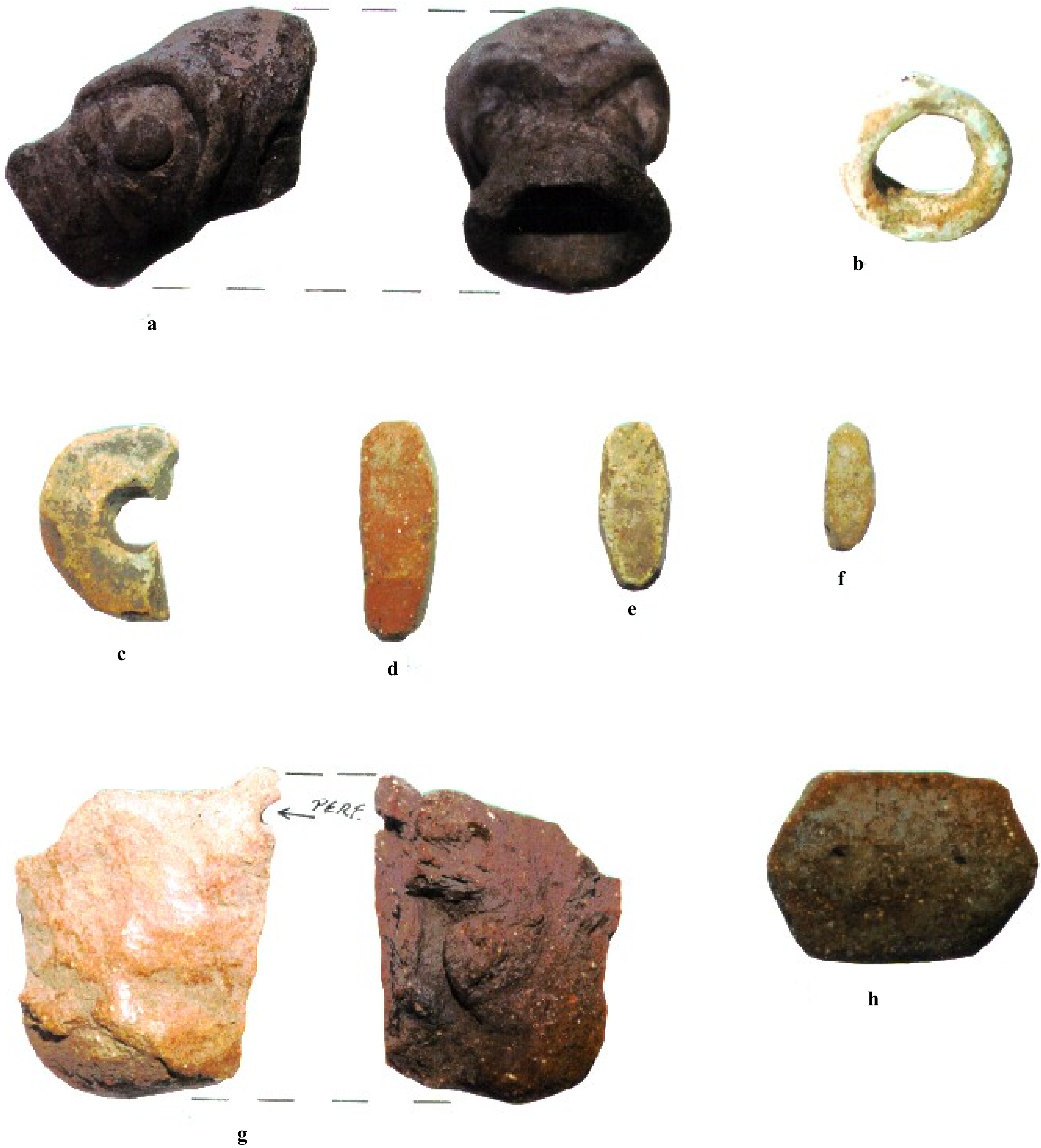


Figure 79. Tanki Flip/Henriquez, Appendages/other. a-b. Black-on-white painted spouts, a. zoomorphic modelled, TF/H 178-3, b. TF/H 678-6; c. spindle whorl, TF/H 424-4; oval clay discs, d. TF/H 419-23, e. TF/H 34-2, f. TF/H 496-4; unidentified sherds, g. TF/H 30-5, h. human face?, TF/H 360-4. Scale 1:1.

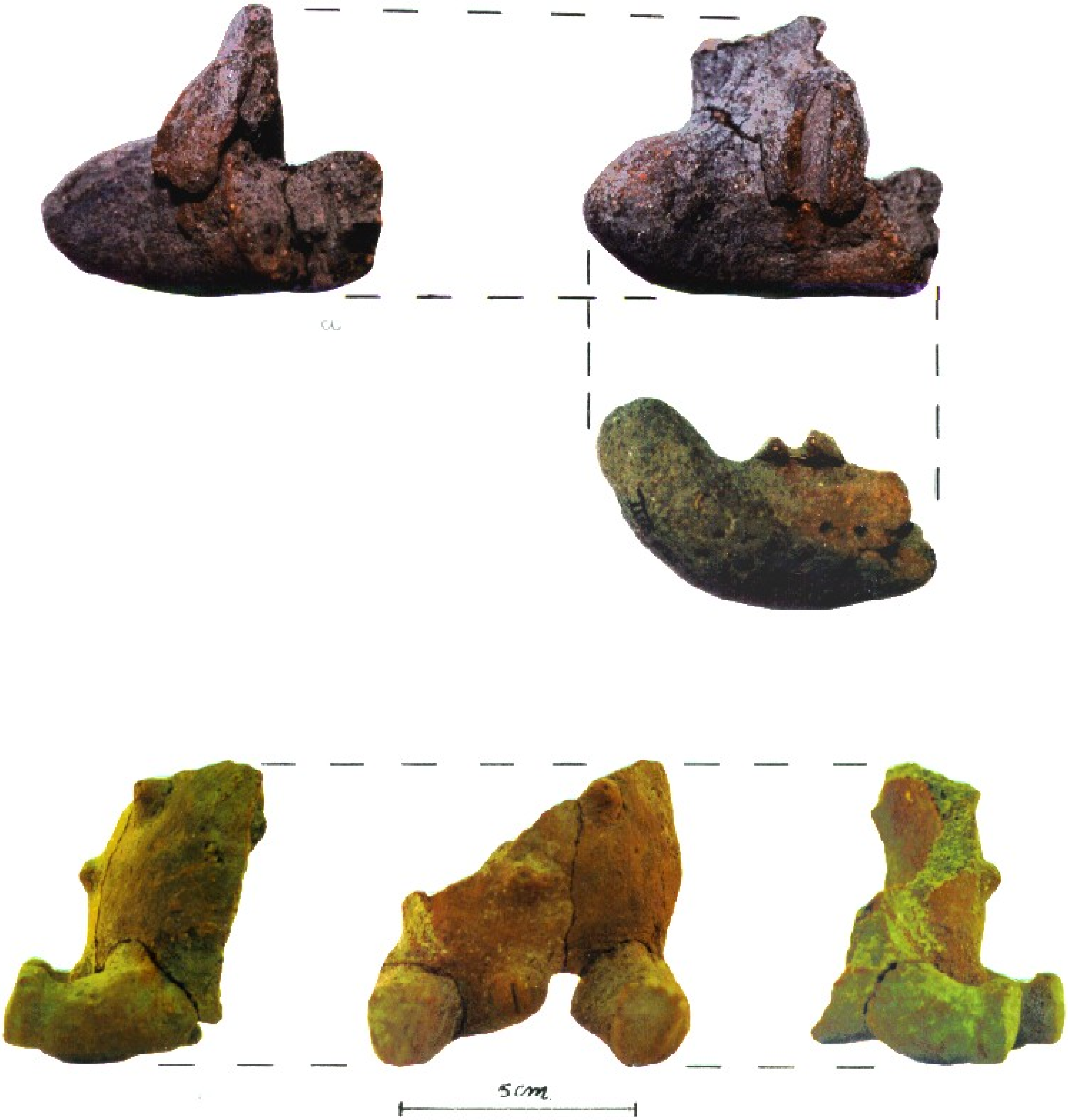


Figure 80. Tanki Flip/Henriquez, Sitting Figurines. a. solid sitting figurine with a coffee-bean vulva and punctation on the bottom, TF/H 190-8 (scale 1:1), b. hollow sitting figurine with a coffee-bean vulva and accentuated breast and navel, TF/H 1-4.

8.2 RIM SHERDS LARGER THAN 5 CM

8.2.1 Description of the Tanki Flip Pottery using Rim Sherds Larger than 5 cm

Rim sherds larger than 5 cm have been used to give a description of the vessel shapes present in the Tanki Flip/Henriquez site, with different aspects subjected to analysis. A total of 258 rim sherds larger than 5 cm were present in the assemblage, of which 228 have been identified.

8.2.2 Vessel Shape

Seven different vessel shapes (and variations) have been identified in the assemblage, which were divided into three groups according to the shape of their orifices:

1. Unrestricted orifice
2. Restricted orifice
3. Independent restricted orifice

The vessel shapes were furthermore classified according to the height/diameter ratio, resulting in three main categories to which the different vessel shapes were ascribed:

1. Dish-shaped: these have a ratio less than 0.30
2. Bowl-shaped: they have a ratio between 0.30 and 0.50
3. Jar-shaped: these have a ratio greater than 0.50

8.2.3 Unrestricted shapes

A total of 55 rim sherds were ascribed to this category (24%). The vessels belonging to this category have an open orifice, and are marked by an end point which is vertical or inclined outward. Within the unrestricted vessel shape category, four sub-groups were recognized:

1. The first sub-group consists of dish-shaped vessels with a simple contour, of which only 6 were present in the assemblage (2.6%) (*fig. B-11a*).
2. The second sub-group consists of bowl-shaped vessels with a simple contour, of which 25 were found in the assemblage (11%) (*figs. B-11b*, *B-18* to *B-21*).
3. The third sub-group consists of jar-shaped vessels with a simple contour, and 17 belong to this sub-group (7.5%) (*figs. B-4a*, *B-10b*, *B-17*).

4. The fourth, and last sub group, consists of dish- or bowl-shaped vessels with a composite contour with a straight profile above the corner point, of which 7 were found (3.1%) (*fig*. *B-23b*).

This means that the highest percentage of the unrestricted vessel shapes is found in the bowl-shaped vessels (11%), and the lowest percentage is present in the dish-shaped vessels (2.6%).

8.2.4 Restricted Shapes

To the restricted shapes 68 rim sherds (29.8%) were ascribed (*figs*. *B-4b*, *B-10b*, *B-12*, *B-13a*, *B-16b*, *B-22*, *B-23a*). This category consists of vessels with a tangent point which is inclined inwards, and the profile lacks a constriction marked by a corner or inflection point. Only one group has been recognized, namely bowl-shaped vessels with a simple contour, with the largest diameter above the half of the height (although some times I had the impression that the largest diameter could have been in the middle of the height). When they are Fine Ware bowls, they are smaller. The 29.8% of rims ascribed to this category is more than the total percentage of the unrestricted vessel shapes (24%).

8.2.5 Independent Restricted Shapes

To this category 105 rim sherds belong, which is 46.1% of the total assemblage, and is the vessel shape most frequently occurring in the Tanki Flip/Henriquez assemblage. This group consists of vessels with a corner point or an inflection point above the major point (point at the equator of the body). Two sub-groups were distinguished:

1. The first sub-group comprises of bowl- and jar-shaped vessels with an inflected contour, which are subdivided into:
   a. bowl-shaped vessels with a straight or outflaring neck; represented by 7 rim sherds (3.1%) (*figs*. *B-3b*, *B-8a*, *B-9*, *B-15b*, *B-24a*, *B-28b*).
   b. jar-shaped vessels with a straight or outflaring neck; represented by 94 rim sherds (41.2%) (*figs*. *B-1 to B3a*, *B-5 to B-7a*, *B-8b*, *B-13-b*, *B-14*, *B-15a and c*, *B-24b to B-27*).
   c. jar-shaped vessels with a bulbar neck; represented by 1 rim (0.4%) (*fig*. *B-27*).
2. The second sub-group consists of bowl- or jar-shaped vessels with a composite contour, to which 3 rim sherds were ascribed (1.3%) (*figs*. *B-7b*, *B-16a*).

These numbers show that the highest percentage of independent restricted vessels is found in the jar-shaped vessels with a straight or outflaring neck (41.2%), and the lowest percentage is found in the jar-shaped vessels with a composite contour (0.4%)[51].

[51] I think that it could be that the large number of possible jar-shaped vessels could be slightly biased, because many sherds lack diagnostic features and are more easily recognized as jar-shaped vessels. Oliver (1989) named in this category all the vessels

8.2.6 Lip shape

8.2.6.1 Lip Shape Numbers

All lip shapes of the 228 identified rim sherds could be determined. Lip shapes not present were (see *fig. 47*): 7, 9, 12 (inward thickened); 17, 19 (outward thickened); 22, 23, 24 (double thickened); 28, 29, 30 (beveled). This means that there were no beveled lips at all. The totals of the present lip shapes are as follows:

a. Rounded - lip shape no.1: 60
- lip shape no.2: 1
- lip shape no.3: 1
- lip shape no.4: 2

Total: 64 rounded lips, which is 28.1% of all lips.

b. Flattened - lip shape no.5: 34

This total is 14.9% of all lips.

c. Inward thickened - lip shape no.6: 4
- lip shape no.8: 5
- lip shape no.10: 3
- lip shape no.11: 2

Total: 14 inward thickened lips, which is 6.1% of all lips.

d. Outward thickened - lip shape no.13: 6
- lip shape no.14: 42
- lip shape no.15: 21
- lip shape no.16: 16
- lip shape no.18: 2
- lip shape no.20: 17
- lip shape no.21: 1

Total: 105 outward thickened lips, which is 46.1% of all lips;

e. Double thickened - lip shape no.25: 6

globular ollas, and a distinction can be made between small and large globular ollas (in this case with a straight or outflaring neck).

Only rimsherds with necks having small orifice diameters were from vessels called ‘necked jars’, of which 6 rims were present in the Tanki Flip assemblage (see §*10.6.3*).

- lip shape no.26: 4
- lip shape no.27: 1

Total: 11 double thickened lips, which is 4.8% of all lips.

Most of the vessels have outward thickened lips (46.1%), while the lowest percentage of lip shapes identified on the vessels are the double thickened lips (4.8%).

8.6.2.2 Association between Lip Shape and Vessel Shape

I have tried to see if there was any relationship between lip shape and vessel shape, and the outcome follows below. The lip shapes with the highest percentages are mentioned first, with the last mentioned lip shape being the one with the lowest percentage. Probably the former is the most common lipshape associated with a specific vessel shape, and the latter is the one we should least expect for that same vessel shape, which also counts for the lip shapes not associated with this vessel shape.

Unrestricted Vessels

1. Dish-shaped vessels with a simple contour have rounded lips (66.7%), and outward thickened lips (33.3%).
2. Bowl-shaped vessels with a simple contour have rounded lips (32%), double thickened lips (28%), inward thickened lips (16%), flattened and outward thickened lips (both 12%).
3. Jar-shaped vessels with a simple contour have outward thickened lips (41.2%), flattened lips (29.4%), double thickened lips (17.6%), and inward thickened lips (11.8%).
4. Dish- or bowl-shaped vessels with a composite contour, with a straight profile above the corner point have rounded lips (42.9%), flattened lips (28.6%), inward and outward thickened lips (both 14.3%).

Restricted Vessels

To this group only bowl-shaped vessels with simple contours belong, which have outward thickened lips (58.8%), rounded lips (23.5%), flattened lips (11.8%), inward thickened lips (4.4%), and double thickened lips (1.5%).

Independent Restricted Vessels

1a. Bowl-shaped vessels with an inflected contour and a straight or outflaring neck have rounded lips (57.4%), outward thickened lips (28.6%), and flattened lips (14.3%).

1b. Jar-shaped vessels with an inflected contour and a straight or outflaring neck have outward thickened lips (52.1%), rounded lips (28.7%), flattened lips (14.9%), and inward thickened lips (4.3%).

1c. Jar-shaped vessels with an inflected contour and a bulbar neck have rounded lips (100%).

2. Bowl- or jar-shaped vessels with a composite contour have rounded, flattened and outward thickened lips (all 33.3%).

8.2.7 Rim Profile

Of one rim sherd the rim profile could not be determined. There were no beveled inverted (c), nor horizontal (d) rim profiles (see *fig. 48*). The present rim profiles were:

1. Straight vertical (a): 117 (51.5%)
2. Beveled everted (b): 10 (4.4%)
3. Flaring (e): 40 (17.6%)
4. Outflaring (f): 36 (15.9%)
5. Incurved (g): 24 (10.6%).

Thus the most common rim profile is the straight vertical (51.5%), and the least represented rim profile the beveled everted (4.4%).

8.2.8 Wall Thickness

8.2.8.1 Wall Thickness Numbers

Of three rim sherds the wall thickness could not be established. The wall thicknesses range from 4 to 18 mm, which have been divided into five classes with their respective totals:

1. 1-5 mm: 11 (4.9%)
2. 6-8 mm: 109 (48.4%)
3. 9-11 mm: 94 (41.8%)
4. 12-14 mm: 10 (4.4%)
5. 15-18 mm: 1(0.4%)

The majority of the rim sherds have a wall thickness between 6-8 mm (48.4%), while only one rim sherd had a wall thickness between 15-18 mm (0.4%).

8.2.8.2 Association between Wall Thickness and Vessel Shape

Also interesting was to look what the wall thicknesses of the different vessel shapes were. Generally bigger vessels, mostly Ordinary Ware, have thicker wall thicknesses, while Fine Ware has thinner wall thicknesses, but I correlated it in general. The thicknesses with the highest percentages are representative for a specific vessel shape, and the lowest percentages are those least expected thicknesses of that same vessel shape. The outcome is as follows:

Unrestricted Vessels

1. Dishes with a simple contour have wall thicknesses in the classes 6-8 mm (33%), 9-11 mm (33%), 12-14 mm (16.7%), and 15-18 mm (16.7%).
2. Bowls with a simple contour have wall thicknesses in the classes 1-5 mm (13%), 6-8 mm (43.5%), 9-11 mm (39.1%), and 12-14 mm (4.3%).
3. Jars with a simple contour have wall thicknesses in the classes 1-5 mm (5.9%), 6-8 mm (70.6%), and 9-11 mm (23.5%).
4. Dishes or bowls with a composite contour have wall thicknesses in the classes 5-8 mm (85.7%), and 9-11 mm (14.3%).

Restricted Vessels

Bowls with a simple contour have wall thicknesses in the classes 1-5 mm (3.0%), 6-8 mm (47.8%), 9-11 mm (46.3%), and 12-14 mm (3.0%).

Restricted Independent Vessels

1a. Bowls with an inflected contour and a straight or outflaring neck have wall thicknesses in the classes 1-5 mm (57%), and 6-8 mm (42.9%).

1b. Jars with an inflected contour and a straight or outflaring neck have wall thicknesses in the classes 1-5 mm (1.1%), 6-8 mm (44.7%), 9-11 mm (47.9%), and 12-14 mm (6.4%).

1c. Jars with an inflected contour and a bulbar neck have wall thicknesses in the class 6-8 mm (100%).

2. Bowls or jars with a composite contour have wall thicknesses in the classes 6-8 mm (33%), and 9-11 mm (66%)

8.2.9 Diameter

8.2.9.1 Diameter Numbers

The orifice diameter of 26 rim sherds could not be determined. The diameters range from 8 to 50 cm, and have been divided into the following classes with their respective numbers and percentages:

1. 1-10 cm: 5 (2.4%)
2. 11-20 cm: 55 (26.8%)
3. 21-30 cm: 64 (31.2%)

4. 31-40 cm: 62 (30.2%)
5. 41-50 cm: 19 (9.3%)

These numbers show that most orifice diameters are found in the class 21-30 cm (31.2%), with the class of 31-40 cm also being highly represented (30.2%), and the most extreme classes have the lowest percentages, being the 1-10 cm class (2.4%), and the 41-50 cm class (9.3%).

8.2.9.2 Association between Diameter and Vessel Shape

To get an idea of the diameter range of the orifice of each vessel shape, I correlated diameter and vessel shape:

Unrestricted Vessels

1. Dishes with a simple contour have diameters in the classes: 11-20 cm (33%), 21-30 cm (50%), and 31-40 cm (16.7%)
2. Bowls with a simple contour have diameters in the classes: 1-10 cm (5%), 11-20 cm (35%), 21-30 cm (30%), 31-40 cm (20%), and 41-50 cm (10%).
3. Jars with a simple contour have diameters in the classes: 11-20 cm (31.3%), 21-30 cm (12.5%), 31-40 cm (37.5%), and 41-50 cm (18.8%).
4. Dishes or bowls with a composite contour have diameters in the classes: 11-20 cm (50%), 21-30 cm (16.7%), and 31-40 cm (33%).

Restricted Vessels

Bowls with a simple contour have diameters in the classes: 11-20 cm (25.4%), 21-30 cm (32.2%), 31-40 cm (37.3%), and 41-50 cm (5.1%).

Restricted Independent Vessels

1a. Bowls with an inflected contour and a straight or outflaring neck have diameters in the classes: 1-10 cm (14.3%), and 11-20 cm (85.7%).

1b. Jars with an inflected contour and a straight or outflaring neck have diameters in the classes: 1-10 cm (3.4%), 11-20 cm (19.3%), 21-30 cm (36.4%), 31-40 cm (29.5%), and 41-50 cm (11.4%).

1c. Jars with an inflected contour and a bulbar neck have diameters in the class 11-20 cm (100%).

2. Bowls or jars with a composite contour have diameters in the classes 21-30 cm (33%), and 41-50 cm (66.7%).

8.2.10 Decorations

A total of 79 rim sherds of the 228 are decorated (34.6%). The most common decorations are finger indentation (35.4%), coiled decoration (22.8%), and black-on-white (12.7%). All other decorations occur in

small numbers: modelling (7.6%), black-on-plain and white paint (both 3.8%), black and red-on-plain (2.5%), brown-on-brown, polychrome, incision and punctated cane impressions (all 1.3%). Furthermore, I must mention that three rims had lugs.

8.2.11 Surface Colours

8.2.11.1 SurfaceColour outside

The surface colour on the outside of one sherd could not be determined. The determined colours were, from the highest represented colour till the least represented color:

1. Light reddish-brown/reddish-brown: 40.2%
2. Dark brown/very dark brown: 13.9%
3. Light brown/brown: 11%
4. Very dark grey/black: 9.6%
5. Light brownish-grey/greyish-brown: 8.6%
6. Grey: 6.2%
7. Dark greyish-brown: 3.3%
8. Red: 2.9%
9. Reddish-grey/dark reddish-grey: 1.9%
10. Pinkish grey: 1.0%
11. Light grey: 0.5%
12. Very pale brown: 0.5%
13. Pink: 0.5%

8.2.11.2 Surface Colour inside

The surface colour on the inside of only one sherd could not be determined. The present colours were, from the highest represented colour to the least represented colour:

1. Light reddish-brown/reddish-brown: 33.5%
2. Dark brown/very dark brown: 15.6%
3. Light brown/brown: 11.9%
4. Light brownish-grey/greyish-brown: 11.5%
5. Grey: 7.8%
6. Very dark grey/black: 6.9%
7. Dark greyish-brown: 4.1%
8. Red: 3.7%
9. Reddish-grey/dark reddish-grey: 2.3%

10. Pinkish grey: 1.8%
11. Very pale brown: 0.5%
12. Pink: 0.5%

8.2.12 Firing Atmosphere

8.2.12.1 Firing Atmosphere Numbers

The firing atmosphere of five sherds could not be identified. Most of the rim sherds were incompletely or relatively well oxidized (52%), while the other percentages are: complete reduction (26%), incomplete oxidation or reduction (18.4%), incomplete oxidation (2.2%), and complete oxidation (1.3%). For the relationship between firing colour and firing atmosphere, see paragraph 7.2.8.7.

8.2.12.2 Association between FiringAtmosphere and Vessel Shape

The association between the firing atmosphere and vessel shape seemed interesting to me, as a possible idea can be drawn of the firing conditions of each vessel category.

Unrestricted Vessels

1. Dishes with a simple contour are mostly incompletely or relatively well oxidized (50%), while the other percentages are: complete reduction, incomplete oxidation or reduction, and incomplete oxidation (all 16.7%)
2. Bowls with a simple contour are mostly incompletely or relatively well oxidized (52%), and other firing conditions are: incomplete oxidation or reduction (24%), complete reduction (20%), and incomplete oxidation (4%).
3. Jars with a simple contour are mostly incompletely or relatively well oxidized (41.2%), while the other firing conditions are: complete reduction (35.3%), and incomplete oxidation or reduction (23.5%).
4. Dishes or bowls with a composite contour are mostly incompletely or relatively well oxidized (42.9%), while other firing conditions are: complete reduction, and incomplete oxidation or reduction (both 28.6%).

Restricted Vessels

Bowls with a simple contour are mostly incompletely or relatively well oxidized (50.8%). Other firing conditions are: complete reduction (24.6%), incomplete oxidation or reduction (20%), incomplete oxidation (3.1%), and complete oxidation (1.7%).

Restricted Independent Vessels

1a. Bowls with an inflected contour and a straight or outflaring neck have mostly a complete reduction (71.4%), while the other firing condition is incomplete oxidation or reduction (28.6%).

1b. Jars with an inflected contour and a straight or outflaring neck are mostly incompletely or relatively well oxidized (60.2%). The other firing conditions are: complete reduction (22.6%), incomplete oxidation or reduction (14.9%), and complete oxidation (1.1%).

1c. The firing condition of jars with an inflected contour and a bulbar neck are unknown, as the firing condition of the only jar in this category is unidentified.

2. Bowls or jars with a composite contour mostly have a complete reduced firing atmosphere (66.7%), while they are also incompletely or relatively well oxidized (33.3%).

8.2.13 Surface Finishing

8.2.13.1 Surface Finishing Outside

The surface finishing on the outside of one rim sherd could not be determined. Mostly the rim sherds are highly burnished on the outside (59.5%), while the other surface finishing percentages are: lightly burnished (33.9%), and smoothed (6.6%).

8.2.13.2 Surface Finishing Inside

Of one sherd the surface finishing on the outside could not be determined. The highest percentage of rim sherds is highly burnished on the inside (63.4%), and the other surface finishings for the inside are: lightly burnished (30.8%), smoothed (4.4%), polished (0.9%), and scraped (0.4%).

8.2.14 Slip

On only 9 rim sherds slip was positively identified. The highest percentage of slip is found on all (inside, lip and outside) the rim sherd (66.7%), while the other areas covered by slip are on the outside and lip (22.2%), and on the inside and lip (11.1%).

8.2.15 Evaluation

It is obvious that the Tanki Flip pottery is quite complex, and one would ask what has to be done with so many measurements. First of all, the typological and morphological aspects will later be a guideline to date the Tanki Flip pottery and to place it in the local chronology. The many typological features will be used to

compare the pottery with Oliver's Dabajuran Sub-tradition, while the vessel shapes and rimforms will be very important in this process. Oliver not only identified many Dabajuroid typological features and attributes, he also found developments within these aspects. Of the vessel shapes, he identified rim forms, which also are typical of certain phases of the Dabajuroid pottery, and developments were also identified. To some extend a comparison will be made with Sterks' unconventional analysis of the Dabajuroid pottery (Van Heekeren collection) of the Dutch Leeward islands (measurements, and some typological aspects). Secondly, the data provides information for the reconstruction and identification of technological aspects of the pottery, which will be treated in the next chapter. I didn't correlate the colours outside/inside and vessel shapes, nor the surface finishings outside/inside with vessel shapes, because in the next chapter these aspects will be treated in general, and the greatest part of the vessel shapes have a light reddish-brown/reddish-brown colour on the outside (40.2%) and inside (33.5%), and a highly burnished surface finishing on the outside (59.5%) and inside (63.4%).

We must not forget is that the Dabajuran Sub-tradition made a sharp distinction between Ordinary Ware (crudely made, and shapes are functionally associated with cooking and storage vessels) and Fine Ware (of a much better and finer ware whose shapes are functionally associated with food serving and storage), a distinction which is also visible in the Tanki Flip pottery (see *§10.6*). However, a few vessels functionally associated with food-serving are somewhat crudely made. The associations and measurements taken in this chapter should be taken seperately for each kind of Ware in future investigations, because in this investigation I looked at all vessel shapes in general, and logically when taken apart, more information on specific vessel shapes within the Ordinary Ware and Fine Ware can be obtained.

9. TECHNOLOGICAL ASPECTS OF THE TANKI FLIP POTTERY

9.1 INTRODUCTION

In this chapter, I will treat different technological aspects of the pottery from Tanki Flip. Shaping techniques, finishing techniques, decorating and firing techniques will be discussed. Rim sherds larger than 5 cm were used to determine the different techniques (to a lesser extend decorating). Of the shaping techniques, only general observations, and information of already known Dabajuroid techniques, were included, as I did no intensive analysis on this aspect of the pottery.

9.2 FORMING STAGES

When a vessel is formed, it usually starts with a ball or lump of clay which has been kneaded to ensure uniform consistency and elimination of air pockets in the clay. Three main stages in the conversion of a body of clay into the final vessel shape can be determined (Rye, 1981: 62; Rice, 1987:119):

1. Primary forming: this forming stage involves the changing of a lump of clay into a form which resembles the finished vessel. Techniques commonly used for this forming stage are throwing, coiling, preparing and joining slabs, pinching and molding.
2. Secondary forming: in this forming stage the shape of the vessel is defined and completed, and the relative proportions of various parts are established. The techniques used for this forming stage are turning, scraping, beating, trimming, throwing, coiling, and joining.
3. The third stage involves surface modifications which change the texture and enhance the esthetic character of the vessel. Techniques used in this stage are scraping, smoothing, polishing, burnishing, appliqué, incising, impressing, and carving.

9.3 SHAPING TECHNIQUES

9.3.1 General Shaping Techniques

For the shaping techniques, only the techniques which do not involve the potter’s wheel are mentioned, as this innovation was not present in the New World. Different techniques are known, and I’ll give a brief description of the techniques which could have been used:

1. Coiling: this technique involves coils or rolls of clay being built up to establish the vessel circumference and to gradually increase the height. The coils are formed by squeezing or rolling the clay into long ropes, whose diameter are in general two or three times the intended thickness of the vessel. The potter starts with the base, after which the body is built up with coils. Often a ridged and grooved surface is produced, which is evened by scraping and smoothing. Coiling is essentially a primary forming technique (Rye, 1981: 67; Rice, 1987: 127-128).
2. Pinching/drawing: a clay lump is manipulated into a vessel shape without adding more clay. Pinching is probably the simplest technique, and involves the opening of a clay lump by inserting a finger and squeezing the clay into the desired form. Pinching is usually used to begin the base, especially rounded bases, or as a finishing technique for reducing gross variations in wall thickness (Rye, 1981:70; Rice, 1987:125).

   Drawing involves the same technique, but only on large vessels; it is also used as part of the coiling technique, where, after being built up by coiling, the walls are raised by squeezing the clay regularly between thumb and fingers, which also strengthens the joins between the coils (Rye, 1981:72; Rice, 1987:125).
3. Molding: this technique involves pressing a section of clay firmly into or over a prepared mold. Molds are convex or concave; in the former case, the clay is applied to the exterior, while in the latter case the clay is applied to the interior. This technique does not demand much skill, and compared with other techniques like coiling, it is less time-consuming, furthermore poor clay-sand mixtures can be used, and it provides a certain standardized shape and size for vessels (Rye, 1981:81; Rice, 1987:125-127; Hofman, 1993:163).
4. Slab building: in this technique the vessel is constructed from one or more slabs of clay that are rolled or patted flat and then joined into the desired shape. The flat slabs are rolled with a cylindrical tool, or flattened between the hands. The edges are joined by pressing or smearing. The technique is suited for rectangular shapes, and for producing large vessels rapidly (Rye, 1981:71; Rice, 1987:125;).
5. Flattening: a piece of clay is flattened with the hands or on a flat surface. This technique is sometimes used together with coiling or molding, and could also be considered as part of the slab building technique (Hofman, 1993:162).

9.3.2 Shaping Techniques at Tanki Flip

It is known from the Dabajuroid pottery that the coiling and the paddle and anvil techniques were used as shaping techniques (Du Ry, 1960; Sterks, 1982; Oliver, 1989). The paddle and anvil technique is also known as ‘beating’, and is a secondary forming technique (Rye, 1981:84; Rice, 1987:137). I can only make some general statements, as I did not do any intensive research on these aspects.

9.3.2.1 Coiling

It is obvious that most of the pottery was made by the coiling technique, as sometimes walls were twice as thick at some points as at others, while other times hairline cracks and distinctive patterns of breakage were evident along horizontal parallel lines. The coiled vessels tend to break along the line where two coils join, and the fractures are usually smooth and rounded, showing the upper edge of a coil that had another applied above it. Probably the base part was made by pinching or flattening out a piece of clay, and after a vessel had been built up, it was evened by scraping and smoothing. Almost all the pottery was made by the coiling technique, including bowls, dishes and jars.

9.3.2.2 Flattening

This technique was used to make the griddles, by flattening out a lump of clay between the hands or on a relatively flat surface. Also bases were probably produced using this technique, after which the vessels were finished using another technique. In the case of griddles, after a period of drying, the underside was scraped or left unworked, leaving imprints of basketry (reed/twig leafs). The surface was smoothed and/or burnished.

9.3.2.3 Other Techniques

1. Pinching/drawing: probably very small bowls (or cups) were made using the pinching technique, having a burnished surface.
2. Molding: no traces of molding were found, nor in the expected vessel shapes, nor in the surface markings. Also in the archaeological record, one would expect to find molds, although some dish shaped vessels could have been used as molds.
3. Slab building: a form of slab building was used, as flattening can be considered part of this technique. It is difficult to recognize it in the archaeological specimens, but when very large vessels occur, which didn’t at the Tanki Flip/Henriquez site, it should be considered. The very large burial urns, which frequently have been found at Santa Cruz and Savaneta, and probably are among the missing urns of Tanki Flip, but were found in the northern part of the site by Versteeg *et al*. (*in prep*, 1997), could have been made by using the slab building technique.

9.4. SURFACE TREATMENTS

9.4.1 General Surface Treatments

Vessels are subjected to different surface treatment techniques during the various stages of the production process. These techniques are:

1. Beating or paddling: in this technique, the clay is repeatedly struck with a flat or concave stick with or without opposing pressure, and is rarely a primary constructional process. The technique is employed on roughly performed vessels in the wet or nearly leather-hard stage to modify shape, size and surface characteristics, and improves the bonding of different segments, removes irregularities, and makes walls thinner (Rice, 1987:137).
2. Scraping: this technique is the most time-consuming step in pottery manufacture, and involves the scraping of the vessel wall with smooth-edged or toothed tools in order to thin the walls and remove surface imperfections. The surface shows striations (*ibid*.).
3. Smoothing: this technique is used to create a finer and more regular surface than results from forming. Smoothing can be done when the vessel is dry. For this purpose usually a soft yielding tool is used, which can be cloth, leather, grass, the potters hand, or a hard tool. The surface has a regular matt rather than glossy appearance (Rye, 1981:89-90; Rice, 1987:138)
4. Burnishing: this technique involves rubbing the vessel surface in a leather-hard or dry stage with a smooth, hard object such as a pebble, bone, horn or seeds. Lightly burnished surfaces show a light combination of lustre and matt, which is the result of incomplete burnishing, but when highly burnished, the lustre has the appearance of striations (Rice, 1987:138).
5. Polishing: the polishing technique involves the same technique as burnishing, but the surface differs from a smoothed or burnished surface primarily in care of execution. It is done on a dry surface, and produces a regular surface with a uniform lustre (Rye, 1981:90; Rice, 1987:138;).
6. Trimming: the trimming or fetting technique, usually associated with wheel-thrown or moldmade pottery, involves cutting away excess clay and imperfections from the vessel in a leather-hard stage with a knife or a sharp tool (Rice, 1987:137-138).
7. Texturing: this technique involves roughening the vessel surface by a number of techniques like brushing, striating, combing, stamping, impressing and rouletting. The rough surfaces provide a better grip, improve the heat transfer in cooking, and may be as much functional as decorative (Rice, 1987:138).

9.4.2 Surface Treatments at Tanki Flip

Of all these different surface treatments, four techniques have been identified on the Tanki Flip pottery. The identification has not only been done on rim sherds larger than 5 cm, but on other observations as well.

1. Scraping: one rim sherd larger than 5 cm was scraped on the inside, but this technique was present on griddles, and on other pottery artefacts, like the inside of an unidentified pottery artefact, probably the upper part of a leg.
2. Smoothing: a low percentage of rim sherds larger than 5 cm was smoothed, which was present on inside and outside surfaces.

3. Burnishing: not only rim sherds larger than 5 cm were lightly burnished or highly burnished, but most of the Tanki Flip pottery was. Generally, always small, round diabase stones are found in the Aruban Ceramic sites, which probably were used to rub the vessel surfaces. Also the ‘ovaloid’ clay discs could have served for this purpose (Oliver, *pers. comm*.).
4. Polishing: only a few rim sherds larger than 5 cm were polished on the outside, while some pottery artefacts had such a lustrous slip, that it looked like polishing.

9.5 DECORATION

9.5.1 General Decorative Techniques

Numerous decorative techniques exist which are applied on pottery. Of the great variety of decorative techniques, a selected number of frequently used techniques not involving the potter’s wheel, or glazed ware, will follow briefly below:

1. Carving: this technique is usually executed when the clay is wet or leather-hard, and involves the removal of clay from the pottery’s surface by a series of cuts in order to create a design. The presence of two or more separate cuts forming each line distinguishes carving from incision (Rye, 1981:91; Rice, 1987:146;)
2. Drilling: when the clay is bone dry or after firing, this technique is applied. The drilled holes are often produced for functional than decorative reasons. The holes take the shape of the drill profile, are always circular in the plane of the vessel, and may be conical or biconical when drilled from both sides (Rye, 1981:90).
3. Incising: this technique involves lines being cut into the surface of the pottery with a narrow-ended tool, and is one of the most variable of the decorative techniques (Rye, 1981:90; Rice, 1987:146).
4. Perforating/piercing: when the clay is leather-hard, a portion of the clay is removed by cutting through the entire vessel wall. Tools with a pointed, cylindrical or U-shaped end are used for this purpose (Rye, 1981:90; Rice, 1987:147).
5. Impressing: this technique involves simply impressing the imprint of a tool on the clay surface creating a pattern. A wide variety of tools are used for this purpose, such as shell, reeds, corncobs, animal teeth or bones, textile, and may also be done with finger or fingernails (Rice, 1981:92; Rice, 1987:144-145).
6. Appliqué (application): this technique refers to the application of small, shaped pieces of clay to the surface of the vessel in a leather-hard or plastic state, including fillets, pellets, spikes, flanges, and large and complex, three-dimensional modeled attachments that are not only ornamental, but also functional (Rye, 1981:93-94;Rice, 1987:148).

7. Stamping: this decorative technique involves the impressing of a repeated pattern of identical motifs with the same kinds of tools mentioned at impressing (Rice, 1987:145).
8. Punctations: depressions are punched into the wet clay, usually with a sharp or pointed tool, such as stick, hollow reed, awl, or a finger or fingernail, and often involves some displacement of the clay (*ibid.*).
9. Rouletting: in this special form of impression, a cylindrical tool is rolled over the surface, leaving a continuous impressed design, and is best applied to leather-hard clay (Rye, 1981:92; Rice, 1987:145).
10. Painting: this technique involves colouring the surface of pottery with a colourant or pigment. Pigment being the inclusive term for the colouring material (organic or inorganic), and paint refers to the action of applying a pigment. Pigments are made of a mixture of colourants, fine clay, water and a binder, while colourants constitute chemical elements like iron and manganese. Pigments may be applied either before or after firing the vessel (Rice, 1987:148-149).
11. Slipping: slips (and glazes) are colour additions that coat the vessel surface, and are fluid suspensions of clay (and/or other materials) in water before firing to form a thin coating (Rice, 1987:149).

9.5.2 Decorations of the Tanki Flip Pottery

Different decorative techniques described above were present in the Tanki Flip/Henriquez assemblage. The decorative techniques identified are:

1. Stamping: this technique includes finger indentation, as a repeated pattern of identical motifs was created by impressing with the potter's finger in the rims of vessels, while also one punctated cane impressed (or corn kernel stamped) rim sherd has been found.
2. Painting: painting on plain, bychrome painting, and polychrome painting were present in the Tanki Flip assemblage. It was both applied before and after firing, and painting was also used in combination with application and perforation. The colours were white, black, red, brown, and orange. The white colour is obtained from a white baking clay slip, the black colour is obtained from carbon or fine ground manganese oxide (MnO_2), the red colour is obtained from ground iron oxide (hematite Fe_2O_3), and the brown colour by adding carbon to clay rich in iron oxide and firing the vessel shortly at a low temperature (Hofman, 1993:167; Steenvoorden, 1987, Van As & Jacobs, 1986 in Hamburg, 1995:134).
3. Appliqué: this technique includes modelling geometric, zoomorphic and anthropomorphic, and nubbins and lugs. It was used in combination with painting, slipping, perforation, punctation and incision. Also the coiled decoration is a form of application , and certainly this decoration has a decorative rather than a functional purpose as part of the coiling shaping technique. The coiled decoration was also used in combination with finger indentation.

4. Incising: this technique is rarely found on the Tanki Flip pottery, and is almost always an auxiliary technique. Mostly they are just short incisions (notches). It is used in combination with application, and very seldomly with painting.
5. Perforation: this technique was present, and is also mostly an auxiliary technique, used in combination with paint and/or modelling. A small pointing tool was used for this purpose.
6. Punctation: like the latter two techniques, it is an auxiliary decorative technique, it is used in combination with application (modelling). Also for this technique a small pointed tool was used.
7. Slipping: different slips were present in the assemblage (white, red, and brown), and had both a decorative and a functional purpose. The colours were obtained the same way as explained for painting.
8. Drilling: the ‘perforations’ of some sherds were made using this technique, while one clay disc was surely drilled.

9.6 FIRING TECHNIQUES

9.6.1 General Firing Techniques

Two firing techniques are distinguished for the firing of pottery vessels, which are (Rye, 1981:96-100; Rice, 1987:153-163;):

1. Open firing/non-kiln firing: this firing technique involves no building or maintenance of structures, but requires a high degree of skill and observational ability to be successful. There are different methods of open firing, and the temperatures achieved are generally between 600°C and 800°C, and unlikely exceed about 1000°C. There is a variation of procedures for open firing pottery, but there are general characteristics. A bed of fuel (slow burning) is prepared on the ground, then the pottery to be fired is placed over the fuel, after which more fuel (slow or fast burning) is placed around and on top of the pottery. The amount of vessels may be only one, but also can reach several hundred carefully placed pots. The fuel is ignited, beginning with the lower layer, then additional fuel is added, and after some time the fuel burns itself out and the firing is over. Vessels are removed immediately, or allowed to cool before taken from the ashes. The firing time can range from 20 minutes to several hours. Different recourses are used for fuel, like bamboo, bark, brush, branches, charcoal, coconut husks, dung, wood, palm fronds, and straw.
2. Kiln firing**:** this firing technique involves a firebox and an enclosed chamber for containing and channeling combustion in the firing of the pottery. Higher firing temperatures and more complete heating is achieved. The temperatures range between 1000°C and 1300°C, and for these purposes three basic kiln-types can be distinguished, namely:

   a) the ‘pit kiln’, which is an intermediate kiln between the non-kiln and the updraft kiln. This kiln

consists of an excavated area of earth surrounded on three or four sides by low walls of mud or mud brick. The fuel is placed below and above the pots, and then fired in the same way as open firings;
b) the ‘updraft kiln’, which is the simplest kiln to build and fire, and are simple enclosed chambers in which the heat moves upward from underneath the pots and then vented outward. The kiln has a separate chamber where the fuel is burned, and another chamber where the vessels are placed;
c) the ‘downdraft kiln’, this type of kiln differs from the updraft kiln in the location of the vessels to be fired relative to the movement of the flames and heat of combustion. It also has a separate firing chamber, but the heat is deflected from direct contact with the vessels by a bag-wall, and forced to travel upward in the kiln, after which it passes down through the pottery chamber and is vented outward through an exterior chimney.

9.6.2 Firing Techniques at Tanki Flip

9.6.2.1 The Models

At the Tanki Flip site, two large hearths interpreted as pits for firing pottery were found in 1994 in the north part (Versteeg *et al., in prep*., 1997) (*fig*. *81*). These are open firings, which is not a surprise, as on Aruba no evidence of pottery kilns have been found (Boerstra, 1983:56). A brief description on the identification techniques which have been used for firing the pottery (in open fires) of sites from St. Eustatius (van As & Jacobs, 1992:230-236) will follow to make correct assumptions on the firing techniques and conditions of the Tanki Flip pottery, because the same techniques will be used here.
Rim sherds larger than 5 cm were used for the identification of the firing conditions and techniques.
The technique is based on recording the colour of five different areas of the sherds, being the colour of the core, the outside zone, the inside zone, the outside of the sherd, and the inside of the sherd. Using the Munsell Soil Color Charts, the colours were identified, and all belong to one of three possible groups, which are indicators of the amount of available oxygen during firing:

1. Oxygen available (oxidation): Hue 10R-4/6 (red)
2. Few oxygen available (neutral): Hue 5YR-6/3 (light reddish-brown), 10YR-7/1 (light grey), 5YR-6/2 (pinkish grey), 5YR-5/4 (dark reddish-grey), 7.5YR-5/4 (brown), 5YR-5/3 (reddish-brown).

Figure 81. Tanki Flip, a Rounded Pit of an Open Fire with a Diameter of 1.40 m (after Versteeg 1994a:12).

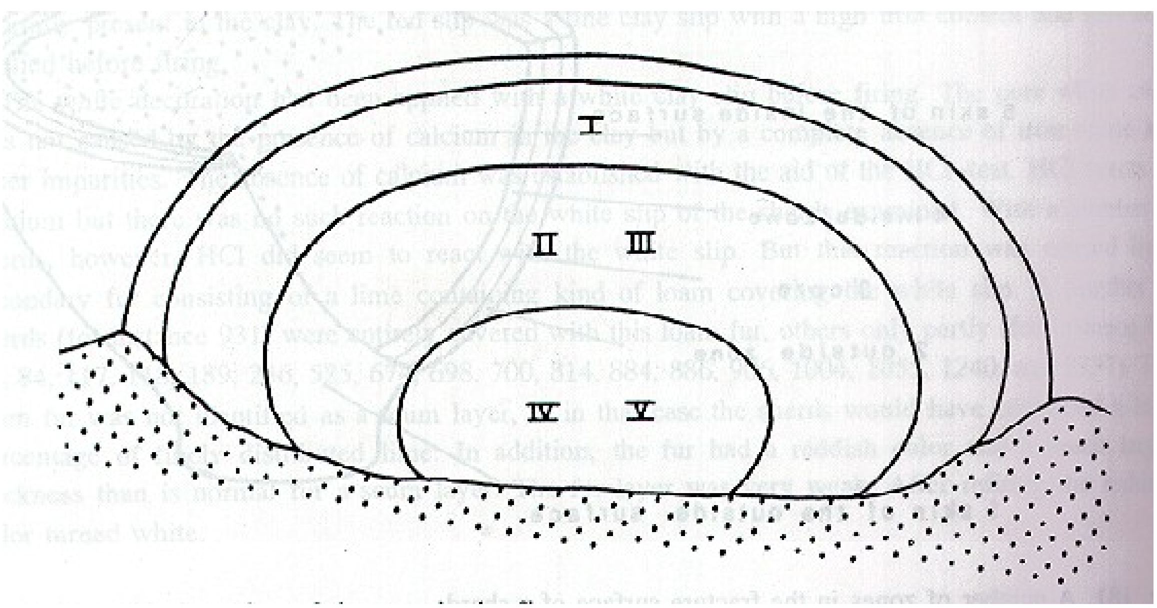


Figure 82. Drawing of an Open Fire Model (after Van As & Jacobs, 1992:234).

3. No oxygen available (reduction): 5YR-2/1 (black), 5YR-5/1 (grey).

The different combinations of colour zones were reduced to 5 models, which gave rise to the identification of the firing technique used and the location of the pots in the fire, assuming that the pots were fired in a bonfire or in a pit. The five models which indicate the location of the pottery in the fire are sub-divided in three concentric circles (*fig. 82*):

1. Model I: the black core has disappeared. The firing time was long enough and the temperature high enough (800°C - 900°C) to allow the carbon to burn away. However, the atmosphere of the fire was not entirely oxidizing.

2. Model II: the pottery was fired in direct contact with the flames. The maximum temperature was not very high (ca. 800°C to 850°C, or maybe 900°C to 950°C for a very short time). The atmosphere of the fire ranged from incomplete to complete reduction.

   Model III: the temperature of a bonfire may be higher at the outside than at the inside, because at the outside more oxygen can enter, causing a better combustion. These pots were probably located at the outside of the fire, and this pottery has a dark core and a surface colour indicating an oxidizing atmosphere.

3. Model IV: the pottery of this model must have been located in the center of the bonfire, where there was only few or no oxygen at all, which caused a smothering atmosphere. Because of these conditions, there's no optimal combustion, the temperature was low, and the fire lasted very short (black core indicating that there was little or no oxygen available). Combustion of carbon could not take place due to the low temperature.

   Model V: this pottery shows traces of oxidation on only the surface, caused by opening the burnt-out, but still hot fire. The core has a dark colour, while the surface has a lighter colour caused by the availability of oxygen after opening the fire.

9.6.2.2 The Core Colours

Thanks to the technological investigation on the pottery of the St. Eustatius site, some insight can be given into the general firing conditions and firing techniques, which now will be applied to the Tanki Flip pottery, beginning with the firing atmosphere. This was determined on rim sherds larger than 5 cm, identifying the core colour and outerzones, which now can be assigned to the different locations in an open fire:

1. An incomplete or relatively well oxidized atmosphere was identified on 116 rim sherds (52%), which conditions are found in the outer concentric circle (no.1).
2. A total of 58 rim sherds (26%) were fired in an atmosphere indicating complete reduction, a condition found in the inner concentric circle (no.3).
3. An atmosphere indicating incomplete oxidation or reduction was identified on 41 sherds (18.4%), and this condition is found in the middle concentric circle (no.2).
4. An incomplete oxidized atmosphere was identified on 5 sherds (2.2%), a condition found in the middle concentric circle (no.2).
5. An atmosphere indicating complete oxidizing conditions was identified on only 3 sherds (1.3%), a condition found in the outer concentric circle (no.1).

These numbers show that the majority of the rim sherds (53.3%) were fired in conditions found in the outer concentric circle (no.1; model I), while 26% was fired in conditions found in the inner concentric circle (no.3; models IV and V), and the smallest percentage (20.6%) was fired in conditions found in the middle concentric circle (no.2; models II and III).

9.6.2.3 The Surface Colours

The surface colours (inside and outside) of the Tanki Flip rim sherds larger than 5 cm have additional information on the type of firing they have been through.

1. Oxygen available: this type of firing atmosphere can be found in the models I, III and V, but is predominantly found in the first. The red colour corresponds to colour number 13 (paragraph 7.2.8.7), and is represented by 3.2%.
2. Few oxygen available: this type of firing atmosphere can be found in all five models, but is predominantly found in the models I, II, and V. The colours indicating this amount of oxygen available correspond with colour numbers 1, 4, 5, 6, 7, 8, 9, 10, 11 and 12 (paragraph 7.2.7.8), and is represented by 81.4%.
3. No oxygen available: this type of firing atmosphere can be found in all five models, but is predominantly found in models II and III. The black and grey colours correspond to colour numbers 1, 2, and 3 (paragraph 7.2.8.7), and is represented by 15.4%. The grey colour is also found in the firing condition where few oxygen is available, because for the Tanki Flip pottery a larger colour range has been used than in the technological study of the pottery of St. Eustatius.

The highest percentage of rim sherds had surface colours indicating an atmosphere where few oxygen was available (81.4%), while 15.4% of the colours indicated an atmosphere where no oxygen was available, and the smallest percentage of the colours (3.2%) indicated an atmosphere where oxygen was available.

9.8. CONCLUSIONS

On the basis of the technological study of the Tanki Flip pottery, it can be concluded that the shaping techniques used were coiling, flattening, and probably pinching. The surface finishing techniques were scraping, smoothing, burnishing, and polishing, while the techniques were stamping, painting, application, incising, perforation, punctation, slipping, and drilling. The pottery was fired in an open fire, where the majority of the pottery was placed in the in the upperpart of the pile concentric (circle no.1),and the minority was placed in the middle circle of the fire. There was probably few oxygen available (neutral).
The Tanki Flip pottery is mostly tempered with quartz (sand) and shell. This brings some problems for the reached temperatures, namely: 1) quartz (free crystalline silica; SiO2), although it resists melting until 1710ºC (refrectory mineral), it undergoes three inversions (changes in atomic structure and bonding). This is important in relation to the shrinking, porosity, and strenght of the pottery. The first inversion occurs at 573ºC ± 5ºC (it changes from alpha to beta quartz), the second and third at respectively 867-70ºC and 1250ºC, of which the last two temperatures were probably not reached (Rice, 1987:95); 2) secondly, shell contains calcium carbonate (CaCO3), of which calcite decomposes on firing at about 870ºC (850-900ºC), or even at 650-750ºC. When calcerous clays fired to 850ºC (or above) are cooled, volume expansion takes place[52], setting up stresses in the surrounding clay body, causing cracking and spalling (“lime popping”) (Rice, 1987:98).
Quartz reduces firing shrinkage and may also lessen fired strenght, unless it is of very small particle size or is present in very small amounts. The reasons for this are because of the expansion occured with the alpha-beta inversion, but also because of the microcracking resulting from larger particles at high temperatures (Rice, 1987:96). Sometimes shell has been added to clays because it increases thermal shock resistance (Rye, 1976:119 in Hofman, 1993:194), which is very important for the cooking-pots and griddles as they are intended for use with heat.

[52] Firstly, when calcium decomposes it forms lime (CaO) and carbon dioxide gas (CO2). Secondly, CaO is hygroscopic (meaning that it absorbs atmospheric moisture) and over time it picks up moisture from the air, forming quicklime (Ca[OH]2) and releasing heat. This proces is then accompanied with volume expansion (Rice, 1987:98).

The technological results show that the pottery has characteristics of firing under rather low temperatures, especially the crude Ordinary Ware pottery. Bases of cooking pots and griddles have a coarse fabric, as coarse and open pores provide protection against thermal shock (grains have a greater freedom to expand). Probably the firing colours of this ware were not very important. The firing conditions of the Fine Ware has had more attention from the potters.

The surface colours of the pottery could have been influenced by the process of cooling down of the pottery. If the pottery was left to cool down while it was still covered with fuel and ashes, the conditions were towards reduction. However, if the pile was partly opened when still hot, the penetration of air would have caused oxidizing conditions, resulting in a brightly coloured surface (Jacobs in Hofman, 1993:169).

It is interesting to note that out of the analysis Sterks (1982) conducted on Dabajuroid pottrery of Bonaire, he concluded that most of the sherds were fired at a temperature below 850°C and 950°C, and high temperatures were only achieved for a short time. The firing atmosphere varied between oxidizing, reducing, and neutral conditions (Sterks, 1982:76). The Tanki Flip pottery could have been fired at relatively low temperatures to medium temperatures probably reaching 750-850ºC, but only detailed technological research on the Tanki Flip pottery (and of the pottery of other Ceramic Period sites of Aruba), can help us further, giving us more exact numbers about the firing temperatures reached by the Aruban potters. Like Sterks noted for Bonaire, the firing atmosphere at Tanki Flip also varied between oxidizing, reducing and neutral conditions, but the mayority of the sherds (81.4%) was fired in an atmosphere with few oxygen (neutral) available.

More intensive studies than the one I've conducted may shed more light on the technological aspects of the Aruban pottery, although the present results are very useful in the comparison with other Dabajuroid pottery, which will be done in the next chapter, together with other pottery aspects.

10. DATING THE TANKI FLIP / HENRIQUEZ SITE AND PLACING IT IN THE LOCAL CHRONOLOGY

10.1 INTRODUCTION

All of the pottery data collected from the Tanki Flip/Henriquez site, can now be dated and placed in the local chronology by comparing it to Oliver's (1989) Macro-Dabajuroid Tradition. As already known prior to me investigation, the pottery of the Tanki Flip site was ascribed to the Dabajuroid pottery by different authors (Heidecker & Siegel, 1969; Sterks, 1982; Boerstra, 1976, 1983), but these were brief observations, as no intensive study was conducted to do more than just call it 'Dabajuroid'. When you see this pottery, it is obviously Dabajuroid, but now we can ascribe it to a Dabajuran phase, and subsequently date it (relatively). Clearly there are similarities with the other Dabajuroid sites on Aruba, which Oliver ascribed to the Early and Late Urumaco phases, and possibly Los Médanos A-phase. This pottery style belongs to the Dabajuran Sub-tradition, forming part of the Dabajuroid Tradition, which in its turn belongs to the overall Macro-Dabajuroid Tradition, so I focused on the Dabajuran Sub-tradition.
A problem is that the Tanki Flip/Henriquez site was not excavated in srtatigraphic layers, so we do not know if the collected material is representative of a single habitation period (contemporaneous), or successive habitation periods. The radiocarbon datings obtained from the southern part of the Tanki Flip site, to which the Henriquez parcel belongs, were:

1. From the excavation Boerstra conducted (TF/H 197) a sample taken from a burial pit gave the date (calibrated to two sigma's) of 1174 to 1277 A.D.
2. From the excavation conducted by Heidecker and Siegel, which investigated area was not relocated, two samples of unknown features (F. I and F. II) were taken which gave the dates (calibrated to two sigma's) of 1040 to 1410 A.D., and 1040 to 1400 A.D.

This means that the southern part of the Tanki Flip site was probably inhabited (activities) between 1040 to 1410 A.D., and specifically the part I investigated, was inhabited between 1174 A.D. and 1277 A.D.
The datings of the northern part of the site gave dates between 828 and 1652 A.D. (calibrated to two sigma's) (see *table 1*). Versteeg *et al*. (*in prep*., 1997) place the habitation, with additional information, between 900/1000 A.D., and conclude that habitation stopped entirely at about 1400 A.D.
With these dates in mind, I could only compare the pottery as a whole with the Dabajuran Sub-tradition, and not as material from different stratigraphic layers to detect e.g. innovations or popularities of a specific

phase or period, like Oliver could do, because he excavated in layers in the different Dabajuran sites. He could seriate distributions of certain pottery attributes or features versus each other, while I can only give absolute numbers. Only if I would assume that the pottery I investigated came from features of parts of the site contemporaneously inhabited (between 1174 and 1277 A.D.), I could say that one attribute or mode was more popular than the other, but this can’t be said. Despite these short comings, the material can be compared as a whole with the Dabajuran Sub-tradition, but specific boundaries of possible phases can not be detected.

10.2 BASES

10.2.1 Dabajuran Diagnostic Bases

Oliver identified four basic modes of simple annular bases in the Túcua phase (800 to 1100/1200 A.D.) (*fig. C-30*[53]), while larger bulbar bases (with perforated windows) were absent (*fig. C-32g*). Shafted bases (*fig. C-32a-f*) were present in both the Túcua and Early Urumaco phases (1100/1200 A.D. to 1350 A.D.). Leg-ring bases (hollow or solid), and ring fragments were present in the Túcua phase and also in the Early Urumaco phase, but not in the Late Urumaco phase (1350 A.D. to 1450 A.D.) (Oliver, 1989:442).
The simple annular bases (Oliver’s mode no.1) increased in popularity in the Late Urumaco phase, while the thicker variant (mode no.2) decreased. Tall, thick annular bases, and the short thick annular bases (modes no. 3 and 4) are mostly confined to the Early Urumaco phase. From Early Urumaco to Late Urumaco, the bulbar bases with window perforations increased in popularity (but less frequent than simple annular bases), while the shafted bases decreased (Oliver, 1989:449-450).
Los Médanos A-phase (1400 A.D. to 1450 A.D.) has the same set of bulbar and shafted bases as the Late Urumaco phase, but black-on-red bowls are associated with the simple annular bases without windows, while the former two bases are always associated with black-on-white painting (Oliver, 1989:473).

10.2.2 Tanki Flip Diagnostic Bases

In the Tanki Flip assemblage, of the total identifiable modes of annular bases, mode no.1 (large, thin) was not present, however one thin piece was present (6mm). Mode no.2, the thicker variant, also with perforations, was very frequently found (fragments), of which four had windows or window fragments. Modes no.3 and 4 (small thick, and large thick simple annular bases) were not identified, but possibly mode no.3 was present. The annular bases were not painted. Shafted bases were the mostly found bases, while bulbar bases, of which five had windows, were not half as much present as the shafted bases. Only one leg-ring base was identified. When the bases were painted, they were associated with black-on-white, or painting-on-plain.

It is interesting to note that the reinforced clay layers (tuza impressions) applied on (convex) bases typical of the Túcua, Early and Late Urumaco phases (*fig. C-33*), although there was a sharp decline in the Late Urumaco phase (Oliver, 1989:441-443, 450), were not identified in the Tanki Flip assemblage.

Sterks (1982:66) noted that the thicknesses of the Aruban Dabajuran base-rings varies between 6 and 12 mm, while the diameter varies between 8 and 14 cm. The two base-rings found at Tanki Flip have a thickness of 17 mm[54], while one of the diameters was 6 cm, which means that the thicknesses vary between 6 and 17 mm, and the diameters vary between 6 and 14 cm.
His *standvoeten* (simple annular bases, bulbar bases, and shafted bases) have thicknesses between 4 and 10 mm, and diameters between 5 and 16 cm. It is difficult to compare these numbers, as I sub-divided his standvoeten in the analysis like Oliver did, but certainly greater thicknesses and diameters were present in the Tanki flip pottery. Sterks' flat bases have diameters ranging between 6 and 13 cm, while they have wall thicknesses between 6 and 13.5 mm. The numbers of the diameter and thickness don't match completely, as the maximal diameter of Tanki Flip flat bases is 16 cm, and the maximal thickness is 19 mm. The new numbers would be: diameters range between 6 and 16 cm, and thicknesses range between 5 and 19 mm.

10.3 GRIDDLES

10.3.1 Dabajuran Diagnostic Griddles

The Túcua phase has only the thick, large budares, while it entirely lacks the thin, small aripos. The Early and Late Urumaco phases abandoned the budares in favour of the aripos (Oliver, 1989:440-441, 448). The aripos and budares have rounded and straight rims (*figs. C-15, C-41*).

10.3.2 Tanki Flip Diagnostic Griddles

The identified griddles of Tanki Flip are all aripos (in thickness and diameter), they have straight and rounded rims, but are not concave like those found by Oliver in the Dabajuran Sub-tradition complexes.

10.4 DECORATION MODES

10.4.1 Painting Modes

10.4.1.1 Dabajuran Diagnostic Painting Modes

[53] Whenever I refer to a figure C-*x*, I refer to appendix C, figure C-*x*.
[54] The thicknesses of the base-rings without the applied coil are 7 and 11 mm, which would correspond with Sterks' observation.

The Túcua phase paintings are characterized by red-on-white, painting-on-plain, black and red-on-orange, and black and red-on-white. The Early Urumaco phase is almost entirely based on black-on-white, while the Túcua polychrome painting on orange slip has degenerated to black or red (not both)-on-orange, and later to simply plain orange. In Túcua white slip is fairly fugitive, which sharply contrasts with the Urumaco phases. Early Urumaco show the beginning of black-on-red and red slipped painting. This painting doubles (from 3% to 7.5% to 12%) in the Late Urumaco phase, while in the Los Médanos-B phase (1450 A.D. to 1560 A.D.) it has nearly replaced all other paint combinations (over 75% of all painted pottery) (Oliver, 1989:443, 450). Black-on-white painting sharply increased in the Late Urumaco phase (from 75% to 84%). In the Early Urumaco phase black and red-on-white painting is more frequent than in the Late Urumaco phase, where it nearly disappears. Oliver concluded that there is a noticeable change toward an increase on red slip with a concomitant loss of polychrome painted pottery from Túcua, to Early Urumaco, to Late Urumaco (Oliver, 1989:450). There is also a significant decline of painting on natural between the Túcua and Early Urumaco phase (from 25-30% to 10%) (Oliver, 1989:451).
As noted above, from the Late Urumaco phase to the Los Médanos-B phase a marked decline in black-on-white painting is noticeable, with a concomitant dramatic increase of black-on-red painting over time, while polychrome painting totally disappeared (Oliver, 1989:469-470).

10.4.1.2 Tanki Flip Diagnostic Painting Modes

Of all painting modes, the Tanki Flip pottery is predominantly painted black-on-white (63.5%), painting on plain (26.6%: black-on-plain [23.5%], black and red-on-plain [2.7%], and red-on-plain [0.3%]), polychrome painting (5.5%: black and red-on-orange [1%]; black and red-on-white [4.4%]), black-on-red and red painting/slipping (2%), black-on-orange (1%), and brown-on-brown (0.3%).

10.4.2 Painted Designs

10.4.2.1 Dabajuran Diagnostic Painted Designs

The painted designs of the Túcua phase are characteristically Dabajuran in style, including rectilinear thick and/or diagonal lines, and geometric designs like semicircles and triangles. Band designs connecting various triangles are common, but one important element of design is absent, which is a triangular (claviform) line embellishment motif (*fig. 86*: mode 13), which is diagnostic of the Urumaco complex. The black and red-on-orange designs have a more curvilinear effect with spirals and hooks.

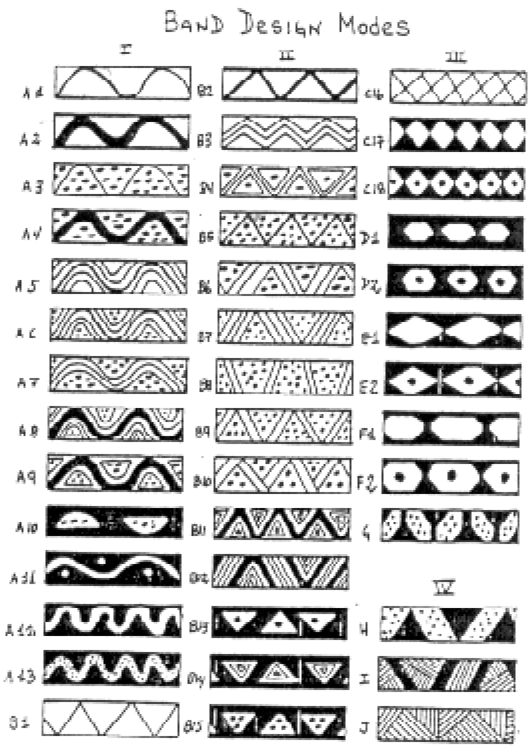


Figure 83. Vocabulary of Dabajuran Painted Designs (after Oliver, 1989:679).

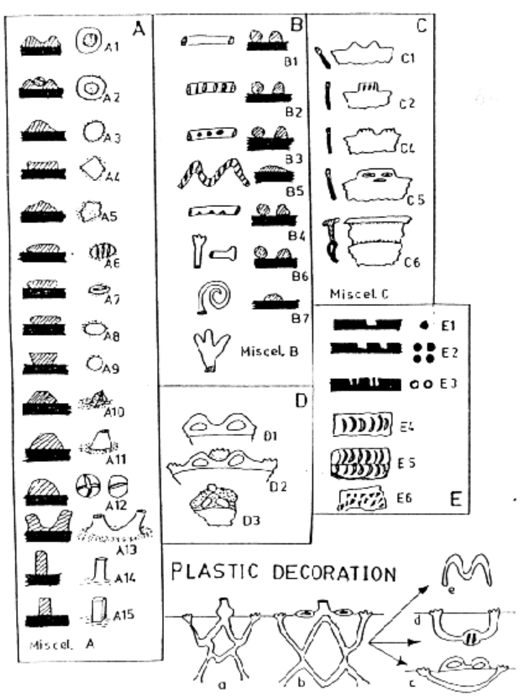


Figure 84. Typology of Plastic Decoration Elements (after Oliver, 1989:682).

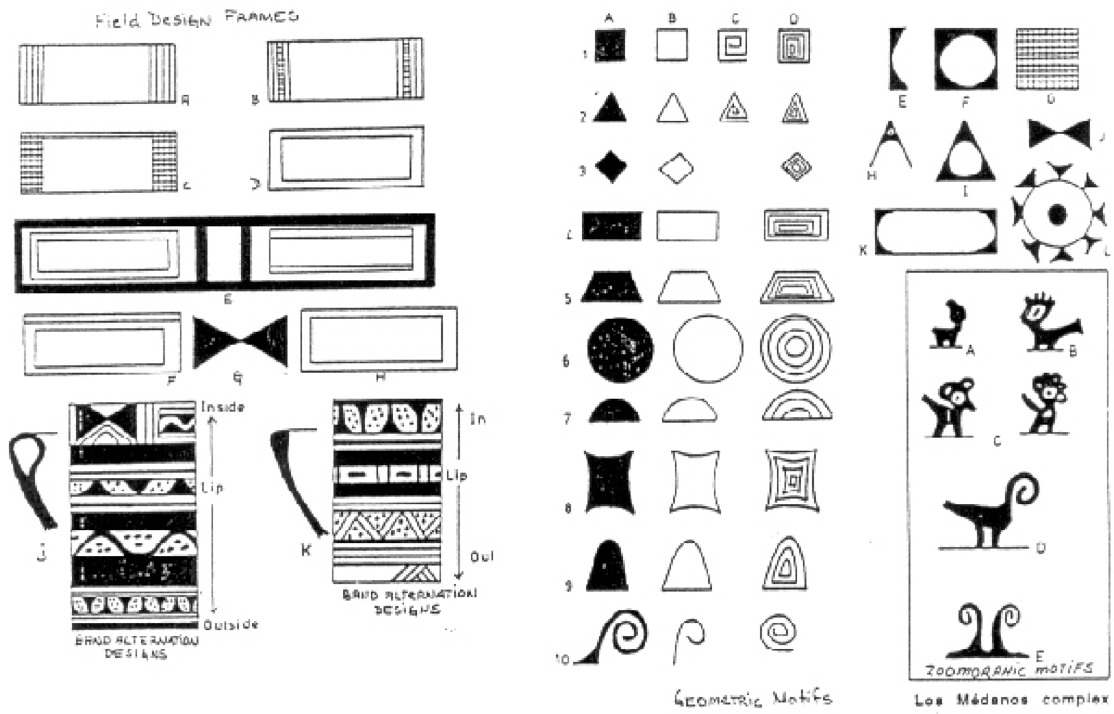


Figure 85. Fields of Decoration and Elementary Geometric Motifs (after Oliver, 1989:680).

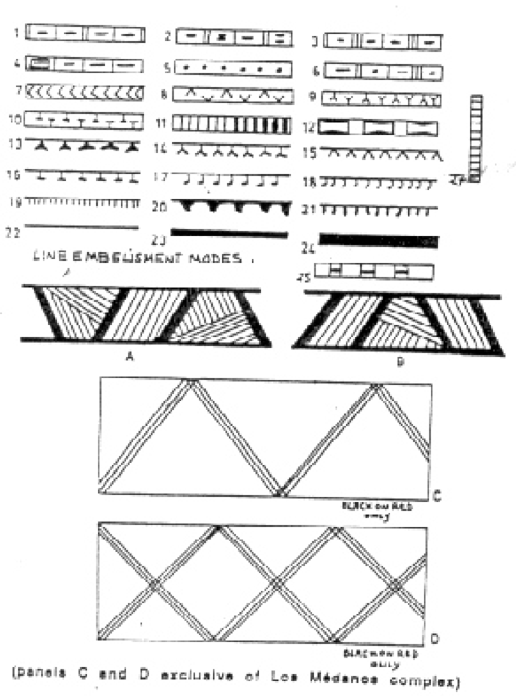


Figure 86. Vocabulary of Dabajuran Painted Designs (after Oliver, 1989:679).

Also in combination, one finds a series of thickened lines, a rectilinear variant of the Macro-Tocuyanoid comb mode, a motif which is rare in the Urumaco phases, and is almost always associated with black and red-on-white painted designs (Oliver, 1989:443-444).

In the Early Urumaco phase, curvilinear painted band designs are more frequent than in the Late Urumaco phase, where a preference is shown for the band designs with triangular figures (*fig. 82*: B1-15), as well as the various diamond-like motifs (*fig. 83*: C, D, F). The sinuous curvilinear band designs A10-13 (*fig. 83*) are still found in high proportions in the Late Urumaco phase. Band designs A12-13 (black-on-red, and black-on-white; *fig. 83*) are relatively more common in the Late Urumaco phase, while they are extremely common in the Los Médanos phases. Band design A10 (black-on-white; *fig. 83*) was present in both Urumaco phases (Oliver, 1989:451). The claviform motif or inverted triangular-like projections used as line embellishments, but also found in conjunction with semicircular, circular, rectangular, and triangular panels with lines, and always painted black-on-white, is the most outstanding and characteristic of all painted motifs of the Early and Late Urumaco phases. It is also a distinctive feature of the Dabajuran Sub-tradition, an innovation of the Early Urumaco phase (Oliver, 1989:452).

In the Los Médanos phases, black-on-red designs are very limited compared with the black-on-white designs, but the line embellishment modes stressed (*fig. 86*: 18, 19, 21) are absent in black-on-white, while the lines are much thinner, better executed, and have designs not present in black-on-white (e.g. the alternate 'V' design [*fig. 86*: c, d], and the avemorphic/zoomorphic motifs [*fig. 26, 85*]). Bowls have decorative fields framed by rectangles with either cross-hatching, 'ladder-like' vertical elements, or plain vertical lines, which are modes never found in black-on-white design frames (*fig. 85*: modes a-c [red], v/s e-g [black]). The black-on-white style gives a sense of cluttering, which generally contrast with the more delicate, cleaner black-on-red style (Oliver, 1989:470-471).

<u>10.4.2.2 Tanki Flip Diagnostic Painted Designs</u>

The pottery of the Tanki Flip site is typically of the Dabajuran Sub-tradition style, with rectilinear polychrome, bychrome, and plain painting. The triangular, claviform motif, or inverted line triangular-like projectings used as line embellishments, are frequently present (e.g. *figs. 49a*, *51a-g*, *62c*, *77c*), and are also found in conjunction with rectangular panels with lines. A few diamond-like motifs were found (*fig. 49a*, *62e*), and also the sinuous curvilinear band design was present (*fig. 62a, 69e*). The black-on-red designs are rectilinear designs, while one possible zoomorphic design, which is more a design with a curvilinear effect with a spiral painted black-on-orange, was present (*fig. 71c*).

10.4.3 Modelling

10.4.3.3 Dabajuran Diagnostic Modelling

Almost no application was found in the Túcua phase, but two sherds showed appliqué modes A3 and A4 (*fig. 84*). The Túcua phase does not have double-loop 'handles' projecting from the lips of a bowl (*fig. 84*: mode D), which is part of a larger design of a biomorphic (zoomorphic) design (batracian) representing the eyes, and is exclusively of the Urumaco complex (Oliver, 1989:444, 452).

Appliqués in the Túcua and Early Urumaco phases have a very limited range of decorative modes and techniques in contrast to the Late Urumaco phase (Oliver, 1989:444). Appliqué fillets (geometric or zoomorphic) with either painted lines or with punctation and short incisions are frequent in the Urumaco phases (*fig. 84*: B1-4), and are always associated with black-on-white painted bowls. Fillets and geometric nubbins (*fig. 84*: A1-15) usually combined together form biomorphic (zoomorphic) motifs (*fig. 84*: a-e) on the outside walls of incurving bowls, and are never associated with black-on-red, but rather with black-on-white. Important is the motif resembling a batracian (frog); it shifts in style from a realistic depiction in the Early Urumaco phase (showing legs, hands, eyes, and head) to a very abstract design consisting of just an 'M'-shaped fillet, or two fillet 'hands' with a medial geometric peg (*fig. 84*: from a-b to c, d and e) (Oliver, 1989:451).

10.4.3.2 Tanki Flip Diagnostic Modelling

No double-loop handles were found, but the biomorphic (zoomorphic) motifs resembling a batracian on outside walls of incurving bowls are present, always in association with black-on-white. They are mostly fragmented pieces, but it is obvious that they represented modes a, b (*fig. 84*), showing a realistic depiction of the batracian (*figs. 69e*, *77a*, *B-20a*). This realistic representation was also found in the 1994 excavated pottery of Tanki Flip (Versteeg *et al., in prep*, 1997). Appliqué fillets with painted lines or dots, appliqué fillets with short incisions, and appliqué fillets with punctation were all present in the assemblage, of which the latter two were not associated with painting. They represent modes B1, B3, B5 and B6 (*fig. 84*).

10.4.4 Other Decoration Modes

10.4.4.1 Other Diagnostic Decoration Modes of the Dabajuran Sub-tradition

Sherds with parallel line incision were present in the Túcua phase, but are probably a trait unit intrusion from the Maticora complex (Oliver, 1989:444). Incision, punctation (dots) and punctated cane impressions are not present in the Túcua phase, while these decorative techniques (except incision) are frequent in the Urumaco and Los Medanos phases (Oliver, 1989:444). The Urumaco phases are dominated by geometric nubbins and pegs of various kinds (*fig. 84*: A1-13: modes A11, and A13-15 are always associated with hollow rimmed bowls) (Oliver, 1989:451).

10.4.4.2 Other Diagnostic Decoration Modes at Tanki Flip

Incision was present on appliqué fillets, on a modelled anthropomorphic head, and under the eyes of anthropomorphic modelled appliqués, while incision not in combination with other decorative modes (2), was limited to a solid leg of a vessel with short incisions to depict the feet, and to one rim with short incisions (*figs. 74e*, *B-16b*). Punctation was present in combination with appliqué fillets (2), and punctation was present on a sherd, and on the bottom of a sitting figurine. One punctated cane impression (or corn kernel stamped) rim sherd was found, and three nubbins were present resembling modes A1-3 (*fig. 84*). Mode A-7 (coffee-bean element) was frequently present at Tanki Flip.

10.5 APPENDAGES / OTHER

10.5.1 Legs

10.5.1.1 Dabajuran Diagnostic Legs

Hollow legs from tripod vessels, appear earliest in the Early Urumaco phase (*fig. C-34*), while these legs with a frontal (circular) perforation probably belong to the Late Urumaco phase (Oliver, 1989:450). D-shaped legs belonging to the highly distinctive biomorphic tetrapod drinking bowl (*fig. C-29a-d, g-h*), were not found in the Túcua phase, but are diagnostic of the Urumaco phases, and were also found in the Los Médanos-A phase (Oliver, 1989:442, 457).

10.5.1.2 Tanki Flip Diagnostic Legs

Two hollow legs were found, both belonging to tripod bowls. One of the hollow legs is miscellaneously decorated, and has a frontal perforation. This perforation represents the mouth of the anthropomorphic representation (probably a shaman or deity) and furthermore this hollow leg could have served as a whistle, as it produces a high and pure sound when one blows in it. Four D-shaped legs were found, which belong to the highly distinctive tetrapod biomorphic drinking bowl, but none were found in association with a secondary burial (or any burial). At the Túcua site (Early Urumaco phase) they had this association, and also at the Corralito site (Late Urumaco phase) they were found in and around secondary burial urns, although at the latter site also many fragments lacked this association. This is very important, because Oliver suggested that they were probably used for the ritual drinking of maçato at the death of a Caquetío diao (1989:442, 449).

10.5.2 Handles

10.5.2.1 Dabajuran Diagnostic Handles

Decorated tubular handles belong to the Late Urumaco phase (Oliver, 1989:444). In the Los Médanos-A phase only one 'bridge-spout' was found, a spout combined with a handle frequently found in the Urumaco phases (*fig. C-29k*), and belonged to the biomorphic tetrapod drinking bowl (Oliver, 1989:457).

10.5.2.2 Tanki Flip Diagnostic Handles

Tubular (rounded) handles were frequently found at the Tanki Flip site, but they were not decorated. There was also one bridge-spout handle painted black-on-white which belonged to a tetrapod biomorphic drinking bowl. A few specimens of a kind of handle with two 'coils' were present, which were also found in the 1994 excavation (Versteeg *et al., in prep*, 1997).

10.5.3 Diagnostic Lugs

The Early Urumaco phase has diagnostic crescent-shaped lugs (Oliver, 1989:444), while these were not found in the investigated Tanki Flip assemblage, but they were present in the pottery excavated in 1994 (Versteeg *et al.*, *in prep*, 1997). Claviform lugs (frequent) and 4 tabular lip extensions, belonging to bowls with shafted bases (*fig. 84C, C-18*), were present in the assemblage.

10.5.4 Sitting Figurines

Two sitting figurines were found at the Tanki Flip/Henriquez site:

1. The first sitting figurine is hollow, has naturalistic feet, a coffee-bean vulva, and breast and navel are accentuated. The figurine represents a female, and is not painted. Part of the upper body is missing (*fig. 80b*).
2. The second sitting figurine is solid, has no indicated feet, and has a relatively strong emphasized coffee-bean vulva. It also represents a female, is not painted, but strangely it has punctations on the bottom. Her left leg and total upper body is missing (*fig. 80a*).

Female anthropomorphic figurines are considered in most religions in the world as the representation of the Mother-Goddess, and are generally associated with some ritual, or religious aspect, especially with fertility rites. On the other hand, some people think that they are just dolls (Wagner, 1980:50). In 1961 Reichel-Dolmatoff conducted a study on figurines in Ecuador, Central America, and Meso-America, where great quantities of figurines are found in the refuse. They were scarcely found in magic-religious contexts (e.g. burials, and tombs). However, they could have been used in curative rites, after which they were discarded. The hollow figurines sometimes were found with small clay balls, and could have served as maracas in rituals (Wagner, 1980:50).
In Western Venezuela, figurines are found in Trujillo, Barquisimeto, Lara, Chirigua, Distrito Sucre, and Mérida (Kidder II, 1948:127). According to Kidder II (1944:127-128), figurines were made for votive

purposes, as they were found in association with sanctuaries, and in connection with the dead. Small tripod vessels, figurines, and broad-winged stone ornaments together formed some sort of votive complex. The female figurines excavated at Tanki Flip were not found in association with burials.

Figurines are classified into two main groups, namely those representing males, and those representing females. A third group is of uncertain sex, but these were meant to represent females. They are further subdivided into standing and sitting groups (Kidder II, 1944:128). For the understanding of the Tanki Flip figurines, the sitting female figurine group is of importance. Kidder II (1944:130) recognized four groups for the sitting female figurines, of which all had hollow rattle bodies. The four groups were based on the form of the head, being 'plain quadrilateral heads', 'corded heads', 'oval heads', and 'crested heads'. All the specimens of these sitting figurines have hands on their legs, short legs, legs spread widely, and sex plainly marked, while most of them are painted (Kidder II, 1944:130, 133 fig. 58, and plate XVII). This doesn't bring me farther, but an observation made by Oliver could. He noticed that the anthropomorphic head shown in *fig*. *70a* , seems to have the same texture as the second figurine and could even be the head of this figurine (*pers. comm*.). They were not found close to each other, nor in the same context (the head was found in a ditch, while the body was found in a refuse pit). But if we would assume that they formed together a figurine, this would help me further. The type of head is the oval head, although the body is not like the specimens Kidder presented, but I found two female figurines which would resemble the Tanki Flip figurine. They are both female sitting figurines, legs widely apart, the vulva visible, an oval head, and both lack arms (Boulton, 1978:233, found in neighborhood of Lake Valencia; Alvarez, 1986:38, found in Estado Apure). These kinds of female figurines are interpreted as having a dual purpose. The open legs, which are obviously intended to accentuate the female genitals, are combined with a masculine aspect, namely the oval head, in combination with the body without hands (broken off ?). When observed from the profile they have the shape of the masculine member in erection (Boulton, 1978:233). Requena and Briceño have noted this same hermaphroditic duality in some Andean species, while in the Lake Valencia region, some pieces with phallic heads have been found (*ibid*.). The female figurines found in the Lake Valencia region, where they are often found, have been called Venus of Tacarigua figures, after the lake's aboriginal name. In this region (also in the Andes region) standing figurines, figurines with legs either extended forward or doubled back, and grossly sexual figurines with strongly emphasized genitals are found (Boulton, 1978:166).

Thus, if we assume that the anthropomorphic head was part of the second figurine found at Tanki Flip, and its stylistic origins should be sought in the Valencia area, and Andean region, this would not be a great surprise. I already suspected connections with these regions (see *chapter 3*), and furthermore, tripod vessels and broad-wing ornaments[55] have been found on Aruba, which would together form some kind of votive complex. This is not strange, as we know that the ethno-historic Coastal Caquetío had a strongly developed

[55] That the bat had an important religious/ceremonial function at Tanki Flip is shown in the bat-adornos found at the site.

religious culture and they had community temples, but kept idols in individual households, while their trade connections in these areas were well known[56].

10.6 RIM SHERDS

10.6.1 Introduction

Oliver (1989) noted that the Macro-Dabajuroid Tradition (especially the Dabajuran and Tierran Sub-traditions) is characterized by a sharp dichotomy of the pottery into Ordinary Ware (crudely made, and vessel shapes are functionally related to cooking and storage), and Fine Ware (much better and finer ware, functionally related to food-serving and storage).

10.6.2 FORM AND FUNCTION

10.6.2.1 Form related to Function

Rice (1987: 238) has made a simplified and idealized summary relating the forms (morphological and physical properties) to specific functions (*table 6*). Variations from the ideal are caused by the fact that the relationship refers to general form and functions, and specific functions can limit the number of variations in form. The variations from the ideal are better understood, when one bears in mind that the shape and compositional characteristics must favour certain uses, and the question is what activities may be accommodated by particular shapes. However, the intended function is not always sure, as the vessels could have had another function (actual function). There is no one to one correlation between variables of use and form (Rice, 1987:224). Rice identified four use-related properties of pottery vessels directly associated to vessel-form, namely the capacity, stability, accessibility, and transportability of a vessel (morphological properties) (Rice, 1987:225). Physical properties are also important for the identification of the function of a vessel, and Rice (1987:226-232) identified the use-related characteristics, which are thickness of the vessel walls, resistance to mechanical stress, thermal behaviour, permeability/porosity/ density, and surface treatment.

For the identification of the actual function (direct use) of the vessels different aspects can be investigated, like the use alterations, deposits on the vessel surface, the use wear on vessels, and the

[56] It is interesting to note that Oliver (1995) also found solid and hollow clay figurines in the Maticora sites.

Functional Category	Shape	Material	Surface Treatment and Decoration	Depositional Context	Frequency	Clues
Storage vessels	Restricted forms, orifice modified for pouring or closure; appendages for suspension or movement (tipping)	Variable (possible concern for low porosity)	Variable for display or messages; slip or glaze to reduce permeability	Dwellings (sometimes set into ground); trash middens	Low (low replacement); may be reuse of broken or old vessels	Residues of stored goods in pores
Cooking pots	Rounded, conical, globular, unrestricted, generally lacking angles	Coarse and porous, thin walls, thermal shock resistant	Little to none; surface roughening for handling ease	Dwellings, trash middens; rarely in special deposits (e.g., burials)	High (frequent replacement)	Patterns of exterior sooting or blackening; burned contents
Food preparation (without heat)	Unrestricted forms, simple shapes	Emphasis on mechanical strength; relatively coarse, dense	Variable; generally low	Dwellings, trash middens	Moderate?	Internal wear; abrasion or pitting
Serving	Unrestricted for easy access; often with handles; flat bases or supports for stability	May be fine	Generally high, for display or symbolic roles	Dwellings, trash middens, special deposits (burials, caches)	High (frequent use and replacement)	Size: correspond to individual servings or group size
Transport	Convenient for stacking; handles; lightweight; restricted orifice	Emphasis on mechanical strength; dense, hard	Variable, generally low; slip or glaze to reduce permeability	Trash middens, nondomestic (market) areas	Variable	Uniform size or multiple units of size; residues of contents

Table 6. Form related to Function (after Rice, 1987:238).

presence of soot deposits and fire clouds on the exterior sides and base of a vessel (Rice, 1987:226-236).

10.6.2.2 The Tanki Flip Pottery Function

The identification of the pottery function is based on general vessel shapes. In the Tanki Flip assemblage seven main vessel shapes were identified, and the shapes give an idea of the vessel orifice (unrestricted, restricted, and independent restricted) and the vessel contour (simple, composite, and inflected). The seven vessel-shapes were compared with the five functional categories Rice recognized.

1. Storage vessels: the characteristics of this functional category are; a restricted form, the orifice is modified for pouring or closure, and there are appendages for suspension or movement (tipping). Vessels of the Tanki Flip pottery which could be associated with the description of storage vessels are bowls with a restricted simple contour, bowls or jars with an independent restricted inflected or composite contour.
2. Cooking pots: the characteristics of this functional category are; an unrestricted rounded, conical or globular shape, generally lacking angles. Vessels of the Tanki Flip pottery associated with the description of this shape are bowls or jars with an unrestricted simple contour. Also bowls or jars with an independent restricted inflected or composite contour match this description, although not entirely, but based on drawings of cooking vessels (Rice, 1987: fig.7.14: 239), they can be added to this category. Even bowls with a restricted simple contour match the drawings of Rice.
3. Food preparation vessels: this functional category's characteristics are; unrestricted forms with simple shapes. The Tanki Flip vessels associated with this shape are dishes, bowls and jars with an unrestricted simple contour, and dishes or bowls with an unrestricted composite contour.
4. Serving vessels: the characteristics of this functional category are; unrestricted forms, often with handles, flat bases or supports for stability. Tanki Flip vessels associated with vessel shapes of this category are dishes, bowls and jars with an unrestricted simple contour, and dishes or bowls with an unrestricted composite contour.
5. Transport vessels: characteristics of this functional category are; restricted orifice, convenient for stacking, having handles and are relatively light in weight. Bowls with a restricted simple contour, and some jars with an independent restricted inflected contour found at Tanki Flip, could have served as transport vessels.

The Tanki Flip pottery is divided into Ordinary Ware (crudely made) and Fine Ware (much finer made), while the vessel shapes of the Ordinary Ware are related to cooking and storage, the Fine Ware vessel shapes are related to food-serving and storage, like Oliver (1989) noticed for the Macro-Dabajuroid Tradition, and especially Dabajuran Sub-tradition (and Tierran Sub-tradition).

10.6.3 Rimforms

10.6.3.1 Introduction

Based on the temper and morphological aspects, the Tanki Flip pottery also can be divided into Ordinary Ware and Fine Ware[57]. Oliver (1989) identified of these two kinds of wares rimforms (vessel shapes) which can be used as chronological indicators. He called the vessels shallow platters, open or restricted bowls, cups, globular ollas (bowls and jars), and necked jars, of which each kind could be sub-divided into different forms. Rims larger than 5 cm of the Tanki Flip assemblage will now be compared with Oliver's rimforms (vessel forms), and could give further information of the Dabajuran phase(s) to which they belong.

10.6.3.2 Ordinary Ware

Oliver (1989) identified 25 basic rimforms, whose vessel shapes are all functionally associated with cooking and storage.

Multiple Coiled

Rimform no. 1 (*figs. C-1, C-35*)

This rimform is present in the Early Urumaco phase (first appearance). It is also present in Late Urumaco, but shows a dramatic decrease; from 30.5% of all Ordinary Ware to just under 14%. Of this rimform 5 rim sherds (2.7%) were found in the Tanki Flip assemblage (*fig. B-1*[58]).

Rimform no. 2 (*figs. C-2, C-36*)

a. This rimform is present in Early and Late Urumaco (more frequent in Late Urumaco).
b. This rimform is present in Early and Late Urumaco (more frequent in Early Urumaco).

Rimform 2a was not present at Tanki Flip, but 9 rim sherds (4.8%) of rimform 2b were found (*fig. B-2*). A rimform of this kind not found by Oliver, which I called rimform 2c, is represented by 2 rims (1.1%) (*fig. B-3a*).

Rimform no. 3 (*figs. C-3, C-4, C-37*)

a. This rimform is present in Early and Late Urumaco, and shows an increase from 3% to 19.6%.
b. This rimform is present in Early and Late Urumaco (more frequent in Late Urumaco).

[57] Detailed textural and mineralogical analysis of the Tanki Flip pottery sherds has to be done to identify exactly what these characteristics of the Ordinary Ware and Fine Ware are.

[58] Whenever I refer to a figure B-*x*, I refer to appendix B, figure B-*x*.

Rimform 3a was not present in the assemblage, but of rimform 3b two rim sherds (1.1%) were found (*fig. B-3b*).

<u>Rimform no. 4 (*figs. C-4, C-37*)</u>

This rimform is present in Early and Late Urumaco (more frequent in Late Urumaco), but was not present at Tanki Flip.

<u>Rimform no. 5 (*figs. C-5, C-37*)</u>

This rimform is present in Late Urumaco, but not in the Tanki Flip assemblage.

<u>Rimform no. 6 (*figs. C-5, C-37*)</u>

This rimform is only present in Early Urumaco. Only one rim sherd (0.5%) identifying this rimform was present at Tanki Flip (*fig. B-4a*).

Rimforms one till six, which are the corrugated rims, are not present in Túcua. From Early to Late Urumaco a marked shift happened from insloping corrugated rims (rimform 1) to markedly outsloping rims of globular ollas (rimforms 2-6). At Tanki Flip, the outsloping multiple coiled rims (5 rim sherds) are less represented than the other 5 corrugated rimforms (14 rimsherds).

Zero Coiled

<u>Rimform no. 7 (*figs. C-6, C-38*)</u>

a. This rimform is present in Túcua and the Early Urumaco phase, but more frequent in Túcua.
b. This rimform is present in Túcua, and the Early and Late Urumaco phases. Most frequent in Túcua (slowly drops in frequency).

Two rims (1.1%) in the Tanki Flip assemblage were identified as rimform 7a (*fig. B-4b*), but rimform 7b was not found.

<u>Rimform no. 8 (*figs. C-7, C-38*)</u>

a. This rimform is present in Túcua and the Early and Late Urumaco phases (very frequent in Early Urumaco, than drops in frequency).
b. This rimform is present in Túcua and Early and Late Urumaco (first increases, than decreases).
c. This rimform is present in Túcua and the Early and Late Urumaco phases (increases, than decreases).

All three rimforms are more frequent in Túcua, with a decrease over the time to Late Urumaco.
Of rimform 8a one rimsherd (0.5%) was present at Tanki Flip (*fig. B-5a*) while rimform 8b was represented by 20 rims (10.7%) (*figs. B-5b, B-6a*) and rimform 8c by 10 rims (5.3%) (*fig. B-6b*).

<u>Rimform no. 9 (*figs. C-9, C-39*)</u>

This rimform is present in Túcua, Early and Late Urumaco (first increases, than decreases). Five rims (2.7%) found at Tanki Flip were identified as rimform 9 (*fig. B-7a*).

<u>Rimform no. 10 (*figs. C-8, C-39, C-40*)</u>

a. This rimform is present in Túcua and in the Early and Late Urumaco phases. Most frequent in Túcua, with a decrease over the time (disappears).
b. This rimform is present in Túcua and the Early Urumaco phase, but most frequent in Túcua.

Of rimform 10a five rim sherds (2.7%) were found at Tanki Flip (*figs. B-7b, B-8a*), while no rimsherd of rimform 10b was present.

<u>Rimform no. 11 (*figs. C-8, C-9, C-40*)</u>

a. This rimform is nowhere present.
b. Only present in Early Urumaco.

Three rim sherds (1.6%) of rimform 11a were found in the Tanki Flip assemblage (*fig. B-8b*), but no rim sherd representing rimform 11b was present.

<u>Rimform no. 12 (*figs. C-9, C-40*)</u>

Present in Early and Late Urumaco, but not at Tanki Flip.

<u>Rimform no. 13 (*figs. C-10, C-41*)</u>

a. Only present in Early Urumaco.
b. In Early and Late Urumaco present, with a decrease over the time (disappears).

Rimform 13a was not present at Tanki Flip, while only three rim sherds (1.6%) were identified as rimform 13b (*fig. B-9*).

<u>Rimform no. 14 (*fig. C-10*)</u>

a. One sherd of this rimform was present in Early Urumaco (only the shoulder was found with a crescent-shaped lug).
b. This rimform is present in Túcua and the Early Urumaco phase (frequency drops slowly, then disappears).

Rimform 14 was not present in the Tanki Flip assemblage.

Rimform no. 15 (*fig. C-11*)

This rimform is only present in Tucua. A total of 29 rim sherds at Tankli Flip were identified as rimform 15, but I sub divided them into rimform 15a. represented by 15 rimsherds (8.0%) (*fig. B-10a*), of which one has a coil (!), and 15b, which is Oliver's rimform 15, and is represented by 14 rim sherds (7.5%) (*fig. B-10b*).

Rimform no. 16 (*figs. C-11, C-41*)

Oliver does not mention in which phase(s) this rimform was found. In the Tanki Flip assemblage, 15 sherds (8.0%) were identified as this rimform (*fig. B-11*), of which one has a coil (!).

Single Coiled

Rimform no. 17 (*fig. C-11*)

a. This rimform is only present in Túcua.

b. This rimform is present in the Early and Late Urumaco phases (increases slowly).

Rimform 17a was not present at Tanki Flip, but 38 rim sherds (20.3%) representing rimform 17b were found (*figs. B-12, B-13a)*.

Rimform no. 18 (*figs. C-12, C-42, C-43*)

a. This rimform is present in the Early and Late Urumaco phases (slowly decreases).

b. This rimform is present in Early and Late Urumaco (slowly decreases, than disappears).

Both rimforms decreased from Early to Late Urumaco. Eighteen rim sherds (9.6%) were identified as rimform 18a at Tanki Flip (*figs. B-13b, B-14a*), while only three rim sherds (1.6%) were found of rimform 18b (*fig. B-14b*).

Rimform no. 19 (*figs. C-13, C-43*)

a. This rimform is present in Early and Late Urumaco (frequency slowly decreases, than disappears).

b. This rimform is present in the Early and Late Urumaco phases (frequency increases and then decreases).

Of rimform 19a ten rim sherds (5.3%) were found in the Tanki Flip assemblage (*fig. B-15a-b*), while rimform 19b was represented by 1 rim sherd (0.5%) (*fig. B-15c*).

Rimform no. 20 (*figs. C-14, C-43, C-44*)

a. This rimform is present in Túcua and in the Early and Late Urumaco phases (from Túcua to Late Urumaco it greatly increases).

b. Present in Early and Late Urumaco (decreases over the time).

Rimform 20a was not present at Tanki Flip, while only one rimsherd (0.5%) representing rimform 20b was found (*fig. B-16a*).

Rimform no. 21 (*fig. C-14*)

This rimform is present in Túcua and the Early Urumaco phase (increases, than decreases). Only one rimsherd (0.5%) representing this rimform was found at Tanki Flip (*fig. B-16b*).

Rimform no. 22 (*figs. C-15, C-44*)

Present in Early and Late Urumaco (slowly increases, than disappears). Three rim sherds (1.6%) representing this rimform were found at Tanki Flip (*fig. B-17*).

Rimform no. 23 (*figs. C-15, C-44*)

Present in the Early and Late Urumaco phases (slowly increases, than disappears). This rimform was not represented in the Tanki Flip assemblage.

In the Túcua phase, the dominant rimform treatment is the 'zero coiling', which sharply contrasts with the Early and Late Urumaco phases; the zero-coiling rim/vessel forms are significantly less in the Late Urumaco phase. Also the 'single-coiled' vessels show a clear decrease from Early to Late Urumaco (Oliver, 1989:440, 448). By Late Urumaco, all 'multiple-coiling' rimforms, except the infrequent corrugated rim bowl (rimform no. 6), are present.

All the Tanki Flip percentages given above are related to the Ordinary Ware. In the Tanki Flip site, a total of 187 rims (82%) belong to this Ordinary Ware, of which 75 are single-coiled (40.1%), 93 (49.7%) rims are zero-coiled (although two rims of the zero-coiling rimforms did have a coil), and 19 rimsherds are multiple-coiled, which is 10.2% of the Ordinary Ware (in the whole assemblage 33 rims larger than 5 cm are corrugated).

Clay Griddles

Rimform no. 24 (*figs. C-15, C-41*)

This is the rimform of the budare (rounded), and is present in Túcua and Early Urumaco, only at the Túcua site (decreased rapidly). The thick budare was not present at Tankli Flip, although four thick griddle fragments (two straight and two rounded) with thicknesses of the baking surfaces ranging between 1.8 and 2 cm, and diameters ranging between 26 and 30 cm, could belong to the budare type of griddle. However, the diameters suggest that they are aripos.

Rimform no. 25 (*figs. C-15, C-41*)

This rimform is of the aripo (straight and rounded), and is present in the Early and Late Urumaco phases (slowly increases, than disappears). The aripo was present at Tanki Flip (12), but was not concave as the ones Oliver identified (*figs. 58-59*).

10.6.3.3 Fine Ware

Oliver identified 23 basic rimforms, whose shapes are functionally associated with food-serving and storage.

Bowls (Black-on-Red Forms excluded)

Rimform no. 1 (*figs. C-16, C-45, C-46, C-47*)

a. This rimform is present in Early Urumaco (larger hollow rim), and also in Late Urumaco (it increases, than decreases, and than increases again).
b. This rimform is present in Túcua (hollow rim, with very narrow hole; size of a pinhead), and also in Early and Late Urumaco (larger hollow rim). It increases slowly, than in the Early Urumaco phase increases rapidly, and than slowly decreases.
c. This rimform (hollow rim with tabular lip extension and shafted base) is present in the Early and Late Urumaco phases (it increases, than decreases slowly, and than disappears).

These three rimforms increased in frequency from Early to Late Urumaco, in contrast to all other Fine Ware bowls. At the Late Urumaco component of Los Médanos, hollowed rimforms show a dramatic decrease. Rimform 1a was represented by one rim sherd (2.9%) at Tanki Flip (*fig. B-18a*), of rimform 1b also one rim sherd (2.9%) was found (*fig. B-18b*), while rimform 1c was represented by 3 rim sherds (8.6%) (*fig. B-19*). However, one of these tabular lip extensions is attched to a flattened lip, painted red on plain, with an anthropomorphic appliqué on the inside. Of this last rimform, also four tabular lip extensions were found without the rim (*fig. 77c-f*).
None of the rim sherds of this rimform no. 1 had a small hole like those of the Túcua phase.

Rimform no. 2 (*fig. C-47*)

This rimform is present in Túcua, and Early and Late Urumaco (it increases, than decreases, and than increases again). This rimform was not present in the Tanki Flip assemblage.

Rimform no. 3 (*figs. C-19, C-20, C-23, C-47, C-48, C-49*)

a. This rimform is present in Túcua and the Early and Late Urumaco phases (from a high frequency in Túcua, it decreases steadily to Late Urumaco).
b. This rimform is present in Túcua, Early and Late Urumaco, and in Los Médanos-B phase (it increases, than decreases, and than increases again).

c. This rimform is present in Túcua and Early and Late Urumaco (it increases, than decreases, than increases again, and than decreases again).

Los Médanos lack hollow rims. In the Los Médanos-B phase, rimform 3a is replaced by rimform 3b, and these rimforms are finer and much better made than those cognate rims no. 3 of Late Urumaco.

Rimform 3a was represented by 7 rim sherds (20%) at Tanki Flip (*fig. B-20a*), rimform 3b by 3 rims (8.6%) (*fig. B-20b-c*), of which one is painted black-on-red, and rimform 3c by one rim sherd (2.9%) (*fig. B-21*).

<u>Rimform no. 4 (*figs. C-23, C-50*)</u>

a. This rimform is present in Túcua, and also in the Early and Late Urumaco phases (it decreases slowly over the time, than disappears).

b. This rimform is present in Early and Late Urumaco (it increases, than decreases, than disappears).

In Los Médanos-A phase, this rim/vessel form (black-on-white) is abandoned for vessel form no. 9 (black-on-red).

Rimform 4a is represented by 4 rim sherds (11.4%) in the Tanki Flip assemblage (*fig. B-22a*), of which one was probably painted black-on-red, while 8 rims (22.9%) were identified as rimform 4b (*figs. B-22b-c, B-23a*).

<u>Rimform no. 5 (*fig. C-51*)</u>

a. This rimform is present in Early Urumaco (first appearance), and also Late Urumaco (predominate after hollowed rimforms 1a and 1b). It increases slowly, than decreases.

b. This rimform is present in Early Urumaco (first appearance) and Late Urumaco (it slowly increases and than disappears).

Rimform 5a and 5b are strongly inflected rims (restricted incurving rim bowls), not present in Túcua, reflects Túcua's limited range of incurving rim bowls.

Six rims (17.1%), of which none is decorated, were found at Tanki Flip resembling these bowls with an unrestricted composite contour (*fig. B-23b*), which Oliver calls inflected rims of restricted incurving rim bowls (mode 5c not mentioned by Oliver [1989] in his frequencies).

<u>Rimform no. 6</u>

This rimform is only present in Early Urumaco, but not in the Tanki Flip assemblage.

<u>Rimform no. 7</u>

This rimform is present in Túcua, Early and Late Urumaco (it slowly drops in frequency, than disappears). This rimform is not present at Tanki Flip.

<u>Rimform no. 8</u>

Absent in the Túcua and Urumaco complexes, and also not present in the Tanki Flip assemblage.

<u>Rimform no. 9 (*figs. C-52, C-53*)</u>

This rimform is only present in the Early Urumaco phase. One rim sherd (2.9%) possibly resembling this rim form was found at Tanki Flip (*fig. B-24a*), but I rather think that it belongs to a tetrapod biomorphic drinking bowl (it has the attachment of a handle; possibly of a bridge-spout handle).

In Los Médanos-A phase, the Fine Ware bowls painted black-on-white are abandoned for the even finer ware bowls painted black-on-red. In the Los Médanos-B phase the remaining Late Urumaco features of shape and decoration of the serving vessels are abandoned (Oliver, 1989:471).

All percentages above are related to Fine Ware bowls. Of the Fine Ware bowls, rimforms no. 4 (34.3%), and rimform no. 3 (31.4%) are mostly represented.

Black-on-Red Bowls

<u>Rimform no. 9</u>

This rimform, with zoomorphic black-on-red designs, appear in Late Urumaco, and are also present in Los Médanos.

<u>Rimform no. 10 (= rimform 9: *figs. C-26, C-52, C-53*)</u>

Absent in the Túcua and Urumaco complexes, but present on the surface of the Corralito site (Early and Late Urumaco site).

<u>Rimform no. 11 (= rimforms 5b and c: *fig. C-26*)</u>

a. Absent in Túcua and the Urumaco phases, but present on the surface of the Corralito site.
b. Present in the Early and Late Urumaco phases (disappears).

<u>Rimform no. 12 (= rimform5a: *fig C-24*)</u>

Present in Early and Late Urumaco (it increases steadily).

<u>Rimform no. 13 (= rimform 3b: *figs. C-21, C-22*)</u>

In the Early and Late Urumaco phases present (it increases steadily).

Rimform no. 14 (= rimform 10: *fig. C-26*)
This rimform was absent in Túcua and the Urumaco phases.

Rimform no. 15 (= rimform 11: *fig. C-26*)
Only present in Early Urumaco.

No black-on-red painted rim sherds larger than 5 cm were found at the Tanki Flip site resembling these rimforms, however two rim sherds which were painted black-on-red, represented rimforms 3b and 4a of the rimforms of bowls excluding the black-on-red bowls.

Necked Jars

Rimform no. 12 (*figs. C-27, C-54*)
Present in Túcua, Early and Late Urumaco. One rim sherd identified as rimform 12 was present at the Tanki Flip site (*fig. B-24b*).

Rimform no. 13 (*figs. C-27, C-55, C-57*)
Present in Early and Late Urumaco. This rimform was not represented in the Tanki Flip assemblage.

Rimform no. 14 (*figs. C-27, C55*)
Present in Túcua, Early and Late Urumaco. This rimform was not present in the Tanki Flip assemblage I investigated, but on an artefact drawing I found of the Tanki Flip/Henriquez site of feature 774, a necked jar is drawn which represents this form (*fig. B-25*).

Rimform no. 15 (*fig. C-28*)
Present in Túcua, Early and Late Urumaco. This rimform was not present in the Tanki Flip assemblage.

Rimform no. 16 (*fig. C-28*)

a. This rimform was present in Túcua, Early and Late Urumaco.
b. This rimform was present in Túcua, Eraly and Late Urumaco.

Three rim sherds representing rimform 16a were found at Tanki Flip (*fig. B-26*), while rimform 16b was absent.

Rimform no. 17 (*figs. C-28, C-56, C-57*)

Four fragments of this rimform (bulbar necks from jars) were found in Túcua (bottom levels). Present in Early and Late Urumaco. One rim was found representing this rimform, but also a fragment of a bulbar jar was found (*fig. B-27*). Furthermore two human faces were found, which were probably attached to a bulbar neck (*fig. B-28a*).

Globular Pots

Rimform no. 18 (*figs. C-28, C-58*)

In the Early and Late Urumaco phases these rimforms were found (small globular-spouted pots, usually with two small spouts). Of the last 7 rimforms, no clear trends were noticed by Oliver (1989).
One rim sherd was found at Tanki Flip (*fig. B-28b*), which possibly belongs to this rimform.

A total of 41 rim sherds (18%) belong to the Fine Ware, not represented by Oliver's black-on-red rimforms (two possibly black-on-red rim sherds were found, and matched the rimfoms 3b and 4a), while only 6 rim sherds identified as necked jars were found (14.6%), and the majority is represented by Fine Ware bowls (85.4%).

10.7 CONCLUSIONS

For the dating and placing of the Tanki Flip/Henriquez site within the Macro-Dabajuroid Tradition, and especially within the Dabajuran Sub-tradition, many different pottery aspects were investigated. However, because of so many characteristics, of which there are also different overlappings between the phases, one could possibly "get lost". Moreover, in the excavated Tanki Flip/Henriquez site no stratigraphy was visible, so the site was not excavated in layers. Furthermore, Boerstra divided the excavated area into two very large pits over the entire site, and because of the shortcomings, it was not possible to focus on horizontal stratigraphy of the pottery (and also only one radiocarbon date of this part of the Tanki Flip/Henriquez site is known). Consequently I investigated the excavated Tanki Flip/Henriquez area as a whole. As I was investigating the Tanki Flip pottery, I noticed that different characteristics of the Dabajuran complexes (styles) were present at the Tanki Flip site. In the first stage of my investigation I already noticed that the Túcua traits were very few, but the Early and Late Urumaco phases were positively present, while it seemed that the Los Médanos phases could be ruled out, as not only the carbondatings don't sustain this possibility, but in the pottery all possible Los Médanos style characteristics are also in the Urumaco phases present. This is not surprising, as no phase has sharply defined boundaries, but rather diagnostic traits, and trends of certain modes.

The Tanki Flip painting modes show primarily Early Urumaco characteristics, while the painted designs are more or less equal to both phases, as I can not detect decreases or increases in frequencies. What is

important to note here, is that the triangular, claviform motif, or inverted line triangular-like projectings, are the dominant motifs in the Tanki Flip assemblage, and are innovations of the Early Urumaco phase. Black-on-white is the dominant painting mode, and there are only a few sherds with black-on-red painting, or red slipping, which is in agreement with the beginning of this painting mode in the Early Urumaco phase in the mainland sites. In the Early Urumaco phase, black-on-white painting is represented by 75% of all painting modes, while in the Late Urumaco phase this painting is represented by 84%. In the Tanki Flip assemblage black-on-white is represented by 63.5% of all painting modes. Polychrome painting is both on white and on orange, of which the latter one is a diagnostic painting mode of the Túcua style which later degenerated to black or red in the Early Urumaco phase. Paint on orange rarely occurs in the Tanki Flip assemblage. On the other hand painting on plain is relatively well represented at Tanki Flip (23.5%), while the Early Urumaco phase shows a decline from Túcua to Early Urumaco (25-30% to 19%).

Of the investigated rim sherds which were identified, 82% belongs to the Ordinary Ware, while 18% belongs to the Fine Ware. The rimforms, especially of the Ordinary Ware, show in any case that the Túcua phase was already left behind, as the diagnostic corrugated rims, absent in Túcua but diagnostic of the Urumaco phases, were present in all 6 different rimforms of which rimform no. 6 was present in the Early Urumaco phase, and also at Tanki Flip, but absent in the Late Urumaco phase on the mainland. This is further emphasized by the fact that the dominant rimform of the Ordinary Ware is not the zero-coiling rimform as in Túcua. However, some of Túcua's characteristic rimforms were present especially of the single-coiled rimforms, but I also think that these are some traits of the Túcua phase the Early Urumaco people left behind some time ago. The zero-coiled rims are obviously Urumaco rimforms. Very important is the presence of rimform no. 25, which is the rimform of the aripo and is absent in the Túcua phase, but the dominant griddle in the Urumaco phases, while in the Late Urumaco phase the budare is totally abandoned. No budare was found at Tanki Flip[59].

The Fine Ware rimforms show in any case that the Los Médanos phase was not present, as the diagnostic black-on-red rimforms were completely absent. Of the diagnostic Fine Ware rimforms, within rimform no.1 (the 'hollow' rim) a development can be seen from a hollow rim the size of a pin-head in the Túcua phase, to a much larger hole in the Urumaco phases; none of these small holed hollow rims was present in the Tanki Flip assemblage. Also rimform 1c, which is the hollow rim with a tabular lip extension and is absent in the Túcua phase, was found at the Tanki Flip/Henriquez site. The necked jars can not be used to indicate the phases, as no clear trends can be seen in them (Oliver, 1989), and they are present in both the Túcua and Urumaco phases.

The diagnostic biomorphic tetrapod drinking bowl, which is not present in the Túcua phase but is highly diagnostic of the Urumaco phases, was present at Tanki Flip as four D-shaped legs, a biomorphic spout and a bridge-spout handle, all belonging to such bowls, were found. Also the tripod vessels, which first

[59] Two griddle fragments could belong to a budare, but were recorded as aripos as they had small diameters (30 cm).

appeared in the Early Urumaco phase and have hollow legs, were present at Tanki Flip, as two hollow legs were found in the assemblage, of which one had a frontal perforation and could belong to the Late Urumaco phase.

Another important observation is the realistic depiction of the batracian appliqué motif, characteristic of the Early Urumaco phase, which in the Late Urumaco phase shifts in style to a stylistic depiction. The identified batracian motifs (or parts of this motif) at Tanki Flip were more of the realistic depiction.

The double-loop handles, which are found in the Urumaco phases, but not in Túcua, were strangely not present in the Tanki Flip assemblage. Other appliqué modes found in the Tanki Flip assemblage correspond to those found in the Urumaco phases, but don't have a very wide range of decorative modes, which contrasts to the Late Urumaco phase.

The present bases show similarities of both Urumaco phases, however, very important is the dominant presence of shafted bases which are predominantly found in comparison with the other bases, especially in relation with the bulbar bases, pointing to the Early Urumaco phase.

In the future the temper of the Tanki Flip Ordinary Ware and Fine Ware should be investigated to look if they resemble the tempers charactesitic of the Urumaco phases.

The information of above, combined with the radiocarbondating (TF/H 197) of the excavated area which yielded the date 1174 to 1277 A.D. and the other datings of the southern part of the Tanki Flip site, which are 1040 to 1410 A.D. and 1040 to 1400 A.D., show that theTanki Flip/Henriquez site was an Early Urumaco site, and also explain the possible Túcua and Late Urumaco traits. Furthermore, the dates of the northern part of the Tanki Flip site gave dates between 828 A.D. and 1625 A.D., however Versteeg *et al*. (*in prep*., 1997) dated it between 900/1000 A.D. and 1400 A.D., which would also shed more light on my findings. Fisrt of all, the Dabajuroid expansion on the mainland took place at about 800 A.D. when the Dabajuran arrived in the area of Dabajuro (Túcua complex) and by 1100 to 1200 A.D. (Early Urumaco; a period of rapid expansion) they colonized much of eastern Falcón, Coro, Paraguaná, and settled along major coastal rivers in western Falcón, while at that time they learned maritime navigation colonizing Aruba, Bonaire and Curaçao. The Tanki Flip Dabajuran people probably came directly from the Dabajuro/Urumaco area (Coastal Falcón). Oliver (1989) also thinks that Aruba was directly colonized from the mainland, as not only the Aruban Dabajuran pottery styles closely resemble those of the mainland, they are practically the same as the mainland Dabajuran styles. Aruba also lies geographically very close to the heartland of the Dabajuran complexes (core area). The results of this thesis support Oliver's theory.

The findings of Versteeg *et al*., (*in prep*, 1997), who concluded that the northern part of the Tanki Flip site was already inhabited in 900/1000 A.D., also support my theory. The Túcua phase is dated at 800 to 1100/1200 A.D., while the Early Urumaco phase is dated at 1100/1200 A.D. to 1350 A.D. Versteeg *et al*. (*in prep*., 1997) concluded that possibly inhabitation firstly concentrated in the northern part of the site from 950/1000 to 1250 A.D., while after 1250 A.D. inhabitation continued less well-organized (sporadic) in the

north, and in that same period of time inhabitation concentrated in the south until at about 1400 A.D. Tanki Flip is totally abandoned. As the north part was inhabited already by 900/1000 it would not be strange to find in the southern part of the site Túcua influences and/or traits. Furthermore, all three radiocarbon datings of the Tanki Flip/Henriquez site show a habitation till ca. 1400 A.D., which falls within the Late Urumaco phase (dated at 1350 A.D. to 1450 A.D.), and would also explain the traits of this period in the Tanki Flip/Henriquez assemblage, as it could also just be beginning to evolve into this next phase. As Versteeg *et al*. (*in prep*., 1997) concluded that habitation of the entire site stopped at 1400 A.D., this would further explain the partly influences from the Late Urumaco phase, and why no diagnostic Los Médanos phase traits were found, also confirming that the entire Tanki Flip site was abandoned at about 1400 A.D. (or they were not influenced by the Los Médanos phase of the mainland if the site was still inhabited after 1400 A.D.). For a better understanding of these theories, the findings of Versteeg *et al*. (*in prep*., 1997), especially the results on the pottery of the northern part, should be investigated.

The Tanki Flip/Henriquez site, which belongs to the southern part of the total site, is in any case primarily an Early Urumaco site, with a few traits of the Túcua phase, and could have been in the beginning of a transition into the Late Urumaco phase. The absolute dates would date the Tanki Flip/Henriquez site between 1040 and 1400 A.D., while the results of my investigation give a relative date of 1100/1200 to ca. 1350 A.D.

With no certainty can be said that my investigation results of the pottery represent the whole Tanki Flip site or the Tanki Flip/Henriquez site (south part of the total site). Also it can not be said that the pottery assemblage I investigated is from a single component area of the site, as the excavation was not done in layers (vertical stratigraphy), and it was not possible to identify vertical or horizontal stratigraphy in the pottery. It seems that it is a single component part of the site, where Ceramic Indians of the Early Urumaco phase lived. The carbondatings, and Versteeg *et al*. (*in prep*., 1997) findings support my conclusions, and until further investigations on the southern part of the site are done, I will positively conclude that the Tanki Flip/Henriquez site is an Early Urumaco site and consequently should be dated between 1100/1200 to ca. 1350 A.D.

11. CONCLUSIONS

The investigation of the Tanki Flip pottery, which played the central role in my thesis, resulted in much more investigated aspects of the Indian culture of Aruba than I first expected. As nobody has ever written the complete Indian history of Aruba, from the first Indians who possibly set foot on the island at about 2000 B.C., till the last full-blooded Indian, who died in 1862 A.D., using different scientific approaches, I felt that as an Aruban, it was my job to do this, using all the up to date information possible.
The different investigators of the Aruban Indian past, usually concentrate on specific periods and/or specific cultures, but they have to be placed in a wider context to understand them better. Although there are authors who wrote of the different Indian periods, they were mostly not detailed enough to get a real grip on the different cultures and their remains as a whole.
My aims were first limited to the analysis of the Tanki Flip pottery, but to understand the whole culture of the people who produced this material, not only the archaeological culture was investigated, but also their predecessors, and their descendants, resulting in a written history of all Aruban cultures known until now, and also focused on cultural continuity.

The island of Aruba has a existed for a long time, some 90 million years, but the first people arrived on the island at about 2000 B.C. and were called the Preceramic people, as they did not have pottery, and also didn't have agriculture. This period is consequently called the Preceramic Period. Unfortunately, we don't know which language they spoke. The Preceramic people lived in small groups, and were nomadic fisher-hunter-gatherers (bands). Fortunately they left burials behind, which enables us to get to know them better. They surely were physically and culturally very different from the later Ceramic people who arrived at the island at about 900/1000 A.D. The arrival of these larger groups, who were agriculturists and made pottery, mark the beginning of the Ceramic period on Aruba. There is a very great possibility that they lived in a symbiosis with the Precramic (Malmok) people as suggested by Versteeg (1994). Oliver (1989) also noted that Preceramic lifestyles survived well into the first millenium A.D. in this region (Coastal Falcón). The Ceramic Period lasted untill 1515 A.D., when some years after Aruba's discovery by the Europeans in 1499 (and from than on under Spanish control), the Indians living on the island called the Caquetío, were deported to Hispaniola, while the rest was killed and the remaining Indians escaped to the mainland. When some of the Indians were brought back to the island in 1525, it were not only Caquetío who came back, but different other Indian groups accompanied them. They lived on Aruba in a society ruled by whites, although they had much freedom, because the island was neglected and scarcely inhabited by the Spaniards. This period is the beginning of the Historical Indian Period.
When the Dutch took possession of Aruba at about 1636, the Spaniards left, and the few Indians possibly escaped to the mainland. When things calmed down on the island, Indians began to migrate again to Aruba,

an island who was very neglected by both the Spanish and Dutch, unlike other islands in the region, reason why the Indians could lead a relatively tranquil life. Aruba was a kind of cattle ranch, where the Indians were in charge of the animals who had to be caught when once in a while this was demanded by the Dutch. During these years, a constant contact was held with Spanish priests who lived at Coro, and came to Aruba when asked for by the Indians for special occasions. Catholicism had already influenced the Indian culture and the interaction with other Europeans was already changing the Indian way of life and its culture. Things changed even more when Aruba was permitted to be colonized, as the colonists began to settle on the island ca 1780. They were Europeans who came mainly from Curaçao and Bonaire (some were born in Europe) and also brought black slaves to the island. The language these Curaçaon settlers spoke was the Papiamentu language, which slowly became the main spoken language on Aruba, and by 1800 A.D. it was the language of the Aruban people. This furthermore stimulated the loss of the Indian culture, which was influenced by new European settlers from different countries who came to live on the island, and little by little a mix took place between all these different cultures. Although there was a constant flow of another Indian race, probably the Guajiro, in 1816 the last official records are known of full-blooded Indians living on Aruba. Unoficially the last full-blooded Indian died in 1862, marking the end of the Historical Indian Period of Aruba.

Fortunately, not the whole Indian culture is lost, as today we still speak Papiamento on the island, which still has Indian influences, and the island is rich in archaeological sites.

We always want to know the origins of the cultures who lived in a certain place, and there directly we find some of the greatest gaps of our knowledge of the Aruban Indians. Firstly, we don't know who produced the numerous rock paintings on the island. Secondly, we don't know exactly who were the Indians who lived on the island in the Historical Period, but they certainly were not (only) Caquetío. Thirdly, we don't know where the Preceramic people came from and what the migration routes of their ancestors were, but they certainly came from the mainland/or Curaçao.

The period which we know best where these questions are answered for a great deal, is the period I focused on, which is the Ceramic Period (Neo-Indian Period IV). Investigations based on historical, linguistical, and archaeological data, have revealed the possible origins and migration routes of the ancestors of the Ceramic Period Indians of Aruba, which are archaeologically called the Dabajuroid, and ethnically/historically called the Caquetío who spoke an Arawakan language also called Caquetío, which is unfortunately an extinct language. The Indians living in this period on the island were under the socio-political control of the mainland Caquetío/Dabajuroid.

My first aim was to give a description of the Tanki Flip pottery excavated in the southern part of the site, called the Tanki Flip/Henriquez site (this parcel belongs to the Henriquez family). I encoutered a lot of shortcomings when I investigated this material, and I am totally aware of these discrepancies and their influence on the results. However, as nobody had ever investigated the pottery of the Tanki Flip site

thoroughly, and especially the pottery of the southern part, it would be the first real description of this pottery, which simply has to be done when a Ceramic Period site is excavated. On Aruba it seams to be a trend that the material is excavated, but not investigated, or only partly investigated. Other times it takes years to publish the material, and often only the interesting material is worked out. If the other aspects are investigated, it is a partial and brief investigation. So in any case a description of the Tanki Flip pottery was necessary.
Oliver's (1989) new investigations on the Dabajuroid pottery, brought very important new insights, which ultimately led to a rearrangement of Rouse's and Cruxent's nearly 30 years old defined Tocuyanoid, Dabajuroid and Tierroid series of Western Venezuela into the Macro-Tocuyanoid Tradition and the Macro-Dabajuroid Tradition. Oliver discovered the probable migration routes of the Dabajuroid/Caquetío people using linguistical, historical and archaeological data. With these data also the dating and placement in the local chronology (Macro-Dabajuroid Tradition, especially within the Dabajuran Sub-tradition) was possible for the Tanki Flip pottery, which was my second important aim.
My third aim was to get to know technological aspects of the Tanki Flip pottery, especially shaping, finishing and firing techniques, but this is the part of this research which must be much further investigated, as my investigation was relatively limited.

The pottery I investigated was excavated in the seventies (1975 - 1977) from an area of ca. 4400 m² (40 - 110 m) of which I collected part of the total amount of pottery found. Pottery from the features 1 - 1000 was used for my investigation, which yielded 416 features containing pottery. The area was not excavated in layers (no stratigraphy), and the site was bulldozed until a depth of 30 - 40 cm, where the habitation layer began. The methods used for collecting the material (e.g. sieve mesh size) are unknown to me. Lots of sherds were "missing", including whole vessels, especially the urns (7).
The total weight of the investigated pottery is 158.410 kilograms, and the material was divided into five main categories, namely body sherds, rim sherds, bases, griddles, and appendages/other. The decoration modes and slipped sherds were recorded, and the rim sherds larger than 5 cm were used to get a more profound look into the vessel set (morphology) and technological aspects of the Tanki Flip pottery, for which also the decorated sherds were used.
The predominant base is the shafted base (40%), while griddles were only represented by the so-called aripos. Bychrome painting, polychrome painting, and also painting on plain are present in the assemblage. A total of 4.9% of the total pottery assemblage was decorated. The Tanki Flip pottery has a relatively ample repertoire of decoration modes, like painting, coiled rims, finger indentation, modelling, perforation, incision, and punctation. The most dominant painting mode is black-on-white (63.5%), and the most frequent painted designs are the triangular, claviform motifs, or inverted line triangular-like projectings used as line embellishments which are also found in conjunction with rectangular panels with lines. Of the plastic decoration, modelling geometric is the dominant form (59%).

Of the appendages/other category, clay discs are the most found artefacts (27.9%), and solid, hollow, and D-shaped legs were present. Most of the handles were rounded. Interesting to note is the presence of two sitting figurines and a spindle whorl.

The dominant vessel forms are the independent restricted shapes (bowls and jars), and the dominant lip shapes are the outward thickened lips. Of the 228 identified rim sherds larges than 5 cm, 187 (82%) belonged to the Ordinary Ware (shapes functionally related to cooking and storage), and 41 (18%) belonged to the Fine Ware (shapes functionally related to food-serving and storage). The most frequent shaping technique is the coiling technique, while the most dominant surface treatment is burnishing. The decorative techniques are painting, application, incising, perforating, drilling, punctating, stamping and slipping. The firing technique was an open fire in a pit (or on the ground), while most of the pottery was probably fired in a temperature below 850ºC in an incomplete or relatively well oxidized atmosphere.

The diagnostic pottery traits of the Dabajuran phases, divided in Túcua (800 to 1100/1200 A.D.), Early Urumaco (1100/1200 to 1350 A.D.) and Late Urumaco (1350 to 1450 A.D.), and Los Médanos-A (1400 to 1450 A.D.) and Los Médanos-B (1450-1600/1650 A.D.), were intensively investigated and compared with the Tanki Flip assemblage. The Early Urumaco phase shows most of the similarities with the pottery collected from the Tanki Flip/Henriquez site, although very few traits of the earlier Túcua phase and to a greater extend traits of the later Late Urumaco phase are present. No vertical nor horizontal stratigraphy could be identified in the pottery, as the many discrepancies didn't allow this, so it cannot be said that the site is a one component site. However, the carbon-datings of the southern part of the site, ranging between 1040 A.D. and 1410 A.D., especially the carbon-dating of the excavated Tanki Flip/Henriquez site (1174 to 1277 A.D.), exactly fall within the Early Urumaco phase. The former two datings, and also the carbon-datings of the northern part of the site, which Versteeg *et al*. (*in prep*., 1997) dated between 900/1000 A.D. and 1400 A.D., explain the few Túcua and Late Urumaco traits.

The Tanki Flip site was possibly directly inhabited from the mainland by the people living in the Dabajuro/Urumaco area, who probably first lived in the northern part of the site (900/1000 A.D.), and later at the southern part (Tanki Flip/Henriquez). The latter part is predominantly dominated by the Early Urumaco phase (1100/1200 - 1350 A.D.) and was possibly in transition to the Late Urumaco phase. Versteeg *et al*. (*in prep*., 1997) suggest that habitation of the entire site stops at about 1400 A.D., which furthermore would explain why Los Médanos phase diagnostic traits were not present. The question is, what happened to these people, where did they go and what was the reason why they left. At the time Tanki Flip was abandoned, the central Santa Cruz site (Early and Late Urumaco), which is also the largest site of the island, and Savaneta (Late Urumaco, possibly in transition to Los Médanos) were inhabited. Close by, the Tanki Lender site is located at about 1 kilometer from the Tanki Flip site, and this site is qualified as a medium-sized village. There is a possibility that they went to live there, but no investigations have been done there yet, so these thoughts remain speculations until further research is done. It is important that the styles of Santa Cruz and Savaneta are more thoroughly investigated to be able to get a better view on the

intra- and inter-island relationships, and to get a better picture of the ethnicity, leadeship, kinship, social relations and supra-natural beliefs of the Aruban Dabajuran people. Also by identifying the different styles on a more detailed basis will enable us to correlate the smaller and much less investigated medium-sized sites and satellite sites with the three Dabajuroid villages (Santa Cruz, Savaneta and Tanki Flip).

More attention should be put on the possible social organizations of these sites, as they were under socio-political control of the mainland Coastal Caquetío/Dabajuroid, which were at a Theocratic Chiefdom level of cultural development, possibly on the verge of civilization. This would imply that on Aruba, where there were caciques living who had strong kinship ties with the paramount chief of the Coastal Caquetío, an advanced level of social organization must have existed, with even a possible hierarchy between the villages. Only future specialized investigations can help us further, with my results contributing to some extend to the understanding of the Dabajuran people who lived on Aruba, especially at Tanki Flip.

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TANKI FLIP / HENRIQUEZ:
An Early Urumaco Site In Aruba

Appendices

R. A. C. F. Dijkhoff

1997

Table A-1. Pinart's (1890) Word List of the Papiamentu Language and Words of a Possible Indian Origin (after Wagenaar Hummelinck, 1957:124-126).

Words of the Aruban Language

Adamudu	Rain, it rains (ada = the water ?!; mudu = comes)
Baru xantu nou	To ask for food
Datié	Go away
Kafa	Bad ghost, devil
Kaula	A thing
Kantie baulete	Give me food
Karebe	A kind of spoon
Xaba dobóxedan gnayeti	Sit down
Xido méo!	An expression used when two Indians meet
Xido kute kantabó	How are you?
Xomoi	Phantom, devil
Waidánga, totuma	A calabash
Sako den komanari manadi watupara fafa na doúere sadii na ditieri	An incantation used while catching iguanas
Tue daya datié gidio dimi gurio y atabo	A formula to scare children
Xerebéte den káfa magolotchi	A formula to curse
Ridié pahidié maranako tubara tehira deburro, hadara kadara	A formula to take out a fishbone stuck in the throat
1) Una areya rafayete dudrea ebanero a bono, caburo copudabo daburi	Formulas to take cactus thorns out of the human body
2) Yubi roba rapebo tchaba na aripebo, duda banabopebo, home daba buroo, damei bakuna, daodao fuda duda.	

Names of Aruban Hills, Caves etc. possibly related to the Indian Language

Ayo	Matividiri	Iamanota	Bedui	Kachinnti
Behika	Chaburari	Warerukuri	Buchiribana	Kunechati
Cukuroi	Chiribana	Warerikiri	Cubari	Kassibari
Handebirari	Tarabana	Avikok	Damari	Wariruri
Karinari	Wakubana	Avikurari	Hendieku	Weburi
Kibaima	Yaburabari	Antikuri	Kamakuri	Inditi
Kodekodektu				

Names of Flora and Fauna which are without any doubt of an Indian Origin

FLORA	FISHES	BIRDS etc.
Dabaraida	Ginga	Dori
Hubada tarabada	Karmaù	Guruguru
Dividivi	Kurkur	Hanahana
Watapana	Purantsi	Kimakima
Kaduchi		Kinikini
Kipopò		Krabete
Lokiloki		Lembelembe
Makura		Mamondenga
Nandu		Paluli
Chimaruko		Chuchubi
Surun		Walsaka
Takamahak		Warawara
Tuturutu		
Yoroyoro		

Table A-2. Van Koolwijk's Word List of the Papiamento Language and Words of a Possible Indian Origin (after Van Koolwijk, 1881:appendix; 1882:222-227).

Hida or Hida meeuw	How are you?
Auw	I'm fine
Hafe dóbo danwajéte	Please sit down
Cautje bauléte	Give me food
Dat jé	Go away
Mimánta	I'm frightened
Carébe	A spoon
Totoémba or Waidánga	A calabash (to serve as a plate for dinner)
Daúchikki or Dousébou	A bag
Bouseránja	Furniture
Caula	A thing
Adamóedoe	Rain
Bároe hántoe wóu	Prayer after dinner
Marákka	A calabash as music instrument, rattle
Aboússoe	A pancake of maize
Sako den comanari María di watapoena fafa na douére sodji na ditiéri	An incantation used while catching iguanas
Dori	Frog
Waltakka	Lizard
Kaáfa	Devil
Homóoi	Ghost
Toe é dai jé datié dimigóerio jatábo	Incantation against snakes
Kajappa	Labourers to plant
Pekinini	A child

Indian Place Names
Antikóeri, Arásje, Arikóerari, Bedóei, Boebári, Boechiseribána, Casjóenti, Cassibári, Causjáti, Damári, Hendjekoe, Jára, Judíti, Kamakóeri, Lacón, Waririóeri, Webóeri.

Indian Hill Names
Ajó, Barbakwá, Behíca, Boekoerói, Cassiwári, Chaboeróoeri, Chiribána, Codecodéctoe, Handebirári, Hendjékoe, Jaboeroebari, Jamanota, Jára, Joediti, Kibáima, Matibidíroe, Oeratakka, Paraboste, Wakoebána, Tarabana.

Indian Cave Names
Matibidiroe, Wareroekóeri, Waririkíri.

Indian Trees and Plant Names
Dabaroída, Hoebadá, Lokkilókki, Takkitákki, Tarabada

Table A-3. Amerindian Words in Papiamentu (after Van Buurt & Joubert, 1994:46-137).

Adicora (Aruac)
Ahá, Ahan (Aruac)
Aichi (Aruac)
Apaka, Alpaca (Quechua)
Amboïna, Ambuena (Aruac W.I.)
Anamú (Aruac Ven.)
Anasa, Anansa (Tupí-Guaraní)
Anuanu, Hanuhanu, Wanuwanu (Aruac Ven.)
Ara (Tupí-Guaraní and Carib)
Arepa, Repa (Aruac and Carib)
Aruba (Aruac)
Ashibi (Aruac)
Até!, Até! (Aruac?)
Awakati (Náhuatl)
Badjaga, Bashaca (Carib Ven.)
Balahú, Balaú (Aruac W.I.)
Balao, Balau, Balahoo (Aruac)
Balashi (Aruac)
Barbakoa, Barbacoa, Warwacowa,
Warwacoha, Warbacoa (Aruac Ven. and Guyana)
Barbakoa, Barbacoa (Aruac W.I.)
Barbekiu (Aruac W.I.)
Bashaca (Carib Ven.)
Batea (Aruac W.I.)
Batata (Tupí-Guaraní and/or Aruac)
Beku (Aruac)
Bera (Aruac W.I.)
Behuku (Aruac)
Bibi (Aruac?)
Boa (Tupí-Guaraní)
Bohio (Aruac W.I.)
Bonaire (Aruac)
Bulabari (Aruac)
Bushi (Aruac Ven.)
Bushiri (Aruac Ven.)
Bushiribana (Aruac)
Cabuya (Aruac and Carib)
Cacao (Náhuatl)
Cacique (Aruac)
Cadushi (Aruac Ven.)
Caiman (Aruac and Carib Ven.)
Camuru (Aruac Ven.)
Canoa (Aruac W.I.)
Caracasbaai (Carib Ven.)
Carebe, Karebe (Aruac Ven.)
Cariatávo, Careotabo (Aruac)
Caribe (Aruac W.I.)
Casibari (Aruac)
Cawama (Carib)
Chananá (Aruac?)
Charomba (Aruac)
Chayote (Náhuatl)
Chibichibi (Aruac?)
Chihumé (Aruac)
Chimichimi (Aruac?)
Chinchirinchi (Quechua?)
Chinchó (Indian languages of the Orinoco area)
Chipichipi (Aruac Ven.)
Choko, Shoko (Aruac, Ven.)
Chogogo (Carib and Aruac Ven.)
Choloma (Aruac Ven.)
Chonchorogai (Aruac? Andean languages? Ven.)
Choromí (Aruac?)
Chucho, Chuchu (Aruac)
Chuchubi (Aruac Ven.)
Chukulati, Chuculati (Náhuatl)
Ciguatera (Aruac W.I.)
Coca (Quechua or Aymara)
Cocoí (Aruac?)
Cododo, Kododo (Aruac)
Corcó (Aruac or Carib Ven.)
Cucui (Aruac Ven.)
Cunucu (Aruac)
Curaçao (Aruac)
Dabaruida, Yaga Dabaruida (Aruac)
Datu (Aruac Ven.)
Dividivi (Aruac)
Djaka (Aruac?)
Dori Maco (Aruac W.I.)
Ekaks, Ecacs (Aruac)
Gobi (Aruac? African?)
Gogorobí, Gogobí (Aruac)
Guyaba (Aruac)
Guacamole (Náhuatl)
Guana (Aruac W.I.)
Hamaka (Aruac)
Hapa (Aruac?)
Henekin (Maya or Taino)
Hikotea, Hicotea (Aruac W.I.)
Hoba, Oba (Aruac)
Hobada, Hubada (Aruac)
Hudishibana (Aruac)
Huku (Aruac)
Indju (?)
Ipecacuana (Tupí)
Ishiri (Aruac)

Jaga, Yaga (Aruac)
Jaguar, Yaguar (Tupí-Guaraní)
Jatu, Yatu (Aruac Ven.)
Jatu Bacu , Yatu Bacu (Aruac)
Jatu Largu, Yatu Largu (?)
Jicotea, Hicotea (Aruac W.I.)
Jiwiri, Yiwiri (Aruac)
Juchi, Yuchi (Aruac?)
Kabuya, Cabuya (Aruac and Carib)
Kachapa (Carib Ven.)
Kadushi, Caduchi (Aruac Ven.)
Kaiman, Caiman (Aruac and Carib Ven.)
Kaketío, Caquetío (Aruac)
Kalabari (Aruac)
Kamari (Aruac)
Kamuro, Camuro (Aruac Ven.)
Kanibal (Aruac W.I.)
Kanoa, Canoa (Aruac Ven.)
Karawara, Kawara, Carawara, Cawara,
Cohara, Kohara, Koahara, Koahari (Aruac)
Karebe, Carebe (Aruac Ven.)
Karèt (Carib)
Karibe, Caribe (Aruac W.I.)
Karishuri (Aruac)
Karkidaki (Aruac?)
Karmau, Kalmau (Aruac)
Kasabi, Kasabe (Aruac)
Kashá (Aruac Ven.)
Kashu (Tupí-Guaraní)
Kasique, Cacique (Aruac)
Katana (Aruac)
Kaubati, Koubati (Aruac)
Kaumati, Koumati (Aruac)
Kawama, Cawama (Carib)
Kayuda, Cayuda (Aruac)
Kayuka (Aruac W.I.)
Kedebe, Kedebi (Aruac?)
Kedebèshi (Aruac Ven.)
Kenepa (Tupí-Guaraní)
Kina (Quechua)
Kinikini (Aruac?)
Kiviti (Aruac)
Kiwa (Aruac W.I.)
Kiwa Karate, Kiwa Karati (Aruac and/or Car. Ven.)
Kododo, Cododo (Aruac)
Koka, Coca (Quechua or Aymara)
Kòkou, Cacao (Náhuatl)
Kokoí, Cocoí (Aruac?)
Kokólode (Aruac?)
Kokorobana (Aruac)
Kokorobí, Cocorobí (Aruac?)
Komehein (Aruac W.I.)
Kóndor, Cóndor (Quechua and Aymara)
Onima, Oníma (Aruac)
Orkan (Quiche Maya, Aruac W.I.)
Korkó, Corcó (Aruac or Carib Ven.)
Korkobá, Corcobá (Aruac)
Koroto (? Ven.)
Kórsou, Corsow (Aruac)
Koubati, Kaubati (Aruac)
Koumati, Kaumati (Aruac)
Kuihi, Cuihi, Kwihi, Kuhi, Kui, Kuida (Aruac)
Kuki indjan, Kuku (Aruac Ven.)
Kukui, Cucui (Aruac Ven.)
Kukuisa, Cucuisa (Aruac or Carib Ven.)
Kunuku (Aruac)
Lama (Quechua and Aymara)
Lataí (Aruac)
Lobi (Aruac?)
Lora (Aruac W.I.?, Carib Ven.?)
Lòki-lòki, Liki-loki (Aruac)
Mabi (Aruac)
Macabí, Makambí (Aruac W.I.)
Machuri (?)
Macutu, Makutu (Carib?, Aruac?)
Mahawa (Aruac)
Maho (Aruac W.I.)
Mahòk (Aruac W.I.)
Mahoso, Mahos (Aruac?)
Mahubari, Mashibari (Aruac)
Maíshi, Mahinshi (Aruac)
Makambí, Macambí, Macabí (Aruac W.I.)
Makuaku, Makuaka (Aruac?)
Makurá (Aruac)
Makutu, Macutu (Carib?, Aruac?)
Malatí (Aruac and Carib)
Mamaya, Mamaña (Aruac W.I.)
Mamparia Cutu, Manparia Gutu (?)
Mampuritu (Carib Ven.)
Manaria (Carib)
Manchebo (Aruac)
Mangel (Aruac)
Maniguacoa (Aruac)
Maniwa, Maniwá, Manua, Manuwa (Aruac?, Eng.?)
Manuweri (Aruac?)
Mapiri (Carib Ven.)
Maraka, Maraca (Tupí-Guaraní)
Markusa, Marcusa (Tupí-Guaraní)
Markusá, Marcusá (Tupí-Guaraní)
Marihuri (Aruac)
Mashibari, Mahubari (Aruac)
Matividiri (Aruac Ven.)
Morèkè (Tupí-Guaraní and Aruac)
Morkoi (Carib and Aruac Ven.)
Ñapa (Quechua)
Nawati, Náhuatl (Aruac)
Nicula, Adicora (Aruac)
Niwa (Aruac)
Tuturutu (Aruac)
Tusa (Maya?, Taino?)

Oromani (Aruac)
Papaya (Carib and Aruac)
Parchita (Aruac W.I.)
Patimari (Carib Ven.)
Pauwís, Pawis, Pòwis (Carib, Dutch synthesis)
Piache (Carib Ven.)
Piapa, Ipiapa (?)
Pita (Aruac W.I.)
Puma (Quechua and Aymara)
Pushi, Kadushi (Aruac Ven.)
Ratania (Quechua) Waltaka, Walsaka (Aruac)
Ruku (Tupí) Wama (Quechua)
Sabana (Aruac)
Sawaka (Aruac)
Sawáwa (Aruac?)
Shagüey, Shagwei, Xagüey, Xaguai (Aruac)
Shimaruku, Shimarucu (Aruac)
Shingot, Shingó (Aruac)
Shoco, Choco (Aruac Ven.)
Shoshori, Shonshon, Sosoro (Aruac?)
Shuata, Shuatá (Carib Ven.)
Sigá (Maya)
Sisal (Maya)
Stakamahachi, Stakamahakchi (Náhuatl?, Aruac?)
Stanibari (Aruac)
Surun (Aruac?)
Tabaku (Aruac W.I.)
Takamahak (Náhuatl)
Tampañá (Aruac Ven.?)
Tapara (Carib Ven.)
Tapioca, Tapioka (Tupí-Guaraní)
Tápir (Tupí-Guaraní)
Tapushi (Aruac?)
Tata (Aruac Ven?)
Tawa (Quechua?)
Tayer (Carib and Tupí)
Tebenk, Tebenc, Terbink, Tebinc (Aruac W.I.)
Tibushi (Aruac)
Titiara (Carib and/or Aruac Ven.)
Tomati (Náhuatl)
Totèki (Aruac Ven. or Carib Ven.)
Totomo, Tutumba (Carib Ven.)
Tribon (Aruac and Tupí)
Trupial (Carib Ven.)
Túa-Túa (Aruac Ven.)
Tukan (Tupí-Guaraní)
Tuna (Aruac)
Tutumba (Carib Ven.)
Uli (Náhuatl)
Urizján, Ulizján, Uruzján, Urushan, Oeroesjan, Orizján (Aruac?, Náhuatl)
Wabi (Aruac)
Wacharaka, Wacharaca (Carib Ven.)
Wacawa, Wakawa (Aruac Ven?)
Waíki (Carib Ven.)
Wakalí (Náhuatl)
Wakubana (Aruac Ven.)
Wakura (Aruac)
Wampanaria (Aruac)
Wanapa (Aruac)
Waranawa (Aruac Ven.)
Warapa (Quechua)
Warashi (Aruac)
Wanuwanu, Anuanu (Aruac Ven.)
Warawara (Aruac Ven., Carib, Tupí-Guaraní)
Warbacoa, Warbakoa, Warbacowa, Warwacoha, Barbacoa (Aruac)
Warwarú (Aruac W.I.)
Washiri (Aruac)
Watakeli, Watakeri (Aruac Ven.)
Watamula (Aruac?)
Watapana (Aruac)
Wawuya (Aruac?)
Wayaká (Aruac)
Wiri (Aruac)
Wimpiri (Carib)
Xagüey, Xaguai, Shagüey (Aruac)
Yaga, Jaga (Aruac)
Yaguar, Jaguar (Tupí-Guaraní)
Yatu, Jatu (Aruac Ven.)
Yatu Bacu, Jatu Bacu (Aruac?)
Yatu Largu, Jatu Largu (?)
Yiwiri, Jiwiri (Aruac)
Yòrki, Yòrqui (Quechua)
Yoroyoro (Aruac)
Yuana (Aruac)
Yuca, Yuka (Aruac)
Yuchi (Aruac?)

- Aruac are the Arawakan languages like Lokono, Guajiro and Caquetío (also Aruac Ven.), and Aruac W.I. are the Taino and Island Carib (Igneri) languages.

Table A-4. Toponyms of Aruba with a supposed Indian Origin (Van Buurt & Joubert, 1994:146; Versteeg & Ruiz, 1995:100-101).

Anabui	Hato	Wacobana, Wacubana
Andicouri, Andicuri, Antikuri	Hubada	Wao-Wao
Angoshi	Hudishibana	Warawara
Araburu, Araboeroe	Huliba	Wariruri
Arashi	Jaburibari, Yaburibari	Weburi
Arikok, Avikok	Jamanota	Wiriwari
Aruba, Oruba, Orua	Janana,Yanana	
Avikurari	Jara, Yara	
Ayo	Jucuri	
Balashi	Kibradari	
Barbaquoi	Kibaima	
Basiruti	Kivarcu, Kiwarcu, Kivarco	
Behika, Behuku	Kodekodectu	
Boroncana	Koyari. Konari, Coyari	
Bubali	Kukurui	
Bucuti	Mabon	
Budui, Bedui	Macuarima	
Bugurui, Bucurui	Macubari	
Burubunu	Madiki	
Bushiri	Mahos	
Bushiribana	Mahuma	
Butucu	Malmok	
Cababuna, Cababoena	Manchebo	
Cadiwari, Kadiwari	Masiduri	
Cadushi	Mativídiri	
Canashito, Cornachiti	Moko, Moka	
Camacuri, Kamakuri	Noka	
Camari	Nuñe	
Cashero	Paradera	
Cashunti	Parawana (Paraguana)	
Casibari, Kassibari	Sabana Basora	
Catashi	Sabana Blanco	
Catiri, Katiri	Sabana Grandi	
Cawara, Kawara	Sabana Liber	
Coashiati	Sasarawichi	
Cubeju	Savaneta, Sabaneta	
Cucu	Shaba	
Cudarebe, Kudarebo, Kudarebe	Shabururi	
Cudawecha, Kudawecha, Kudawechi	Shidaharaca	
Cuwana	Shiribana	
Curimiao, Kurimiao	Siribana, Chiribana	
Curuburi, Curiburi, Corobori/Caruburi	Tarabana	
Daimari, Damari	Taratata	
Eayac (Cuy Grandi)	Tibushi	
Fofoti	Tishi	
Guadirikiri, Wadirikiri, Warerikiri	Turibana	
Guarero	Urataka	
Hadicurari, Avekurari	Urirama	
Hadicuri	Uña Uña (Unjaunja)	

Table A-5. Selected Caquetío Vocabulary from the Sixteenth Century (after Oliver, 1989:593-594).

Term	***Phonetic transcription***	***EnglishGloss***
adabacoa	(h)adabakoa	“wooded” valley
-bana	-bana*	surrounding leaves/cover
báquiro	bákiro	peccary
baperón	baperón	lime gourd flask
barbasco	barbasko?	fish poison
barici-	barisi	“muddy opaque”
bariqui/e	bariki/ke	red hematite
bisure	bisure	lizard species
boratio	boratio	shaman
buco	buko	cut into the ground,dam
budare	budare	clay griddle
buxera	bujera	black body paint
çabana	sabana?	savannah
caduchi	caduchi*	cactus fruit
cama	K-ama	tapir
Capú	kapú	spirit, goblin
Capubana	kapu-bana	a hill in Paraguaná
Caquetío	Kaketío*	people (general)
caça	kasa, kaza	maize porridge
Ceque	ceque	owl
cocuy	kokuy*	Agave species
comoho	komoho	cactus
coque	koke	red ant species
corie	korie	armadillo
cumaragua	kumarawa	smallpox
chaure	chaure	owl
chirgua	chirwa	pot for water
chirigua	chiriwa	small jar
chiriguare	chiriware	hawk
chuchube	chuchube	bird species
dare	dare	tooth
datihao	datihao	“lesser” chief
diao	diao	principal chief
Guacaubana	wakaubana	underground greek
guacoa	wakoa	pigeon species
guacurebo	wakurebo	creek with water
guairón	wairon	fire hearth
guaranaro	waranaro*	fish species
guaro	waro	parrot
hayo	hayo	Coca leaves
icoroata	ikoroata	black beans
machire	machire	defective pottery
macoya	makoya*	rope
maure	maure	type of textile (cotton)
mene	mene	smallpox/tar
quicidi	kuicidi	(specific?) sierra
raporón	(also baperón)	gourd flask with lime
taboro	taboro	mountain (specific?)
tara	tara	locust
auri	auri	dog
dato	dato*	cactus fruit
zazare	zazare	crushed quartizic stones

- Underlined words are probably not Caquetío, but from the Santa Martha area (Chibchan?).
* Caquetío words which were adopted, either directly or in an altered form, into Papiamentu.
? Words widespread in Arawakan languages.

The last two words are taken from Haviser (1991:78).

Table A-6. Papiamentu Vocabulary of suggested Amerindian Origin by Lauffer and Martinus, and Additional 'Amerindian-origin' Words suggested to Haviser during Interviews on Bonaire (after Haviser, 1991:79-80).

Lauffer (1971)

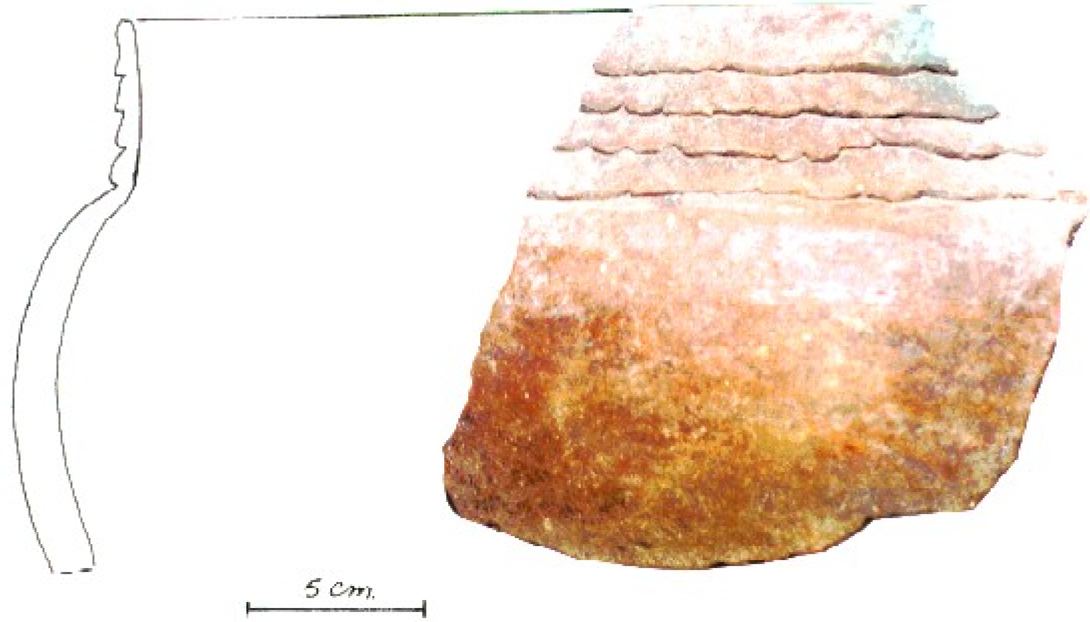
Ahan	Kunuku	Shimaruku
Anasa	Lora	Tapara
Badjaga	Mahos	Takamahak (Stakamahakchi)
Balaú	Makwario	Totèki
Chogogo	Malati	Trupial
Chuchubi	Maraka	Wama
Datu	Ñapa	Warawara
Guyaba	Orkan	Watakeli
Hamaka	Papaya	Watapana
Kachapa	Pita	Wayaka
Karawara	Pòwis	Wiri
Kayuda	Ruku	Yuana (Yoana)
Kiwa	Sabana	

Martinus (1990)

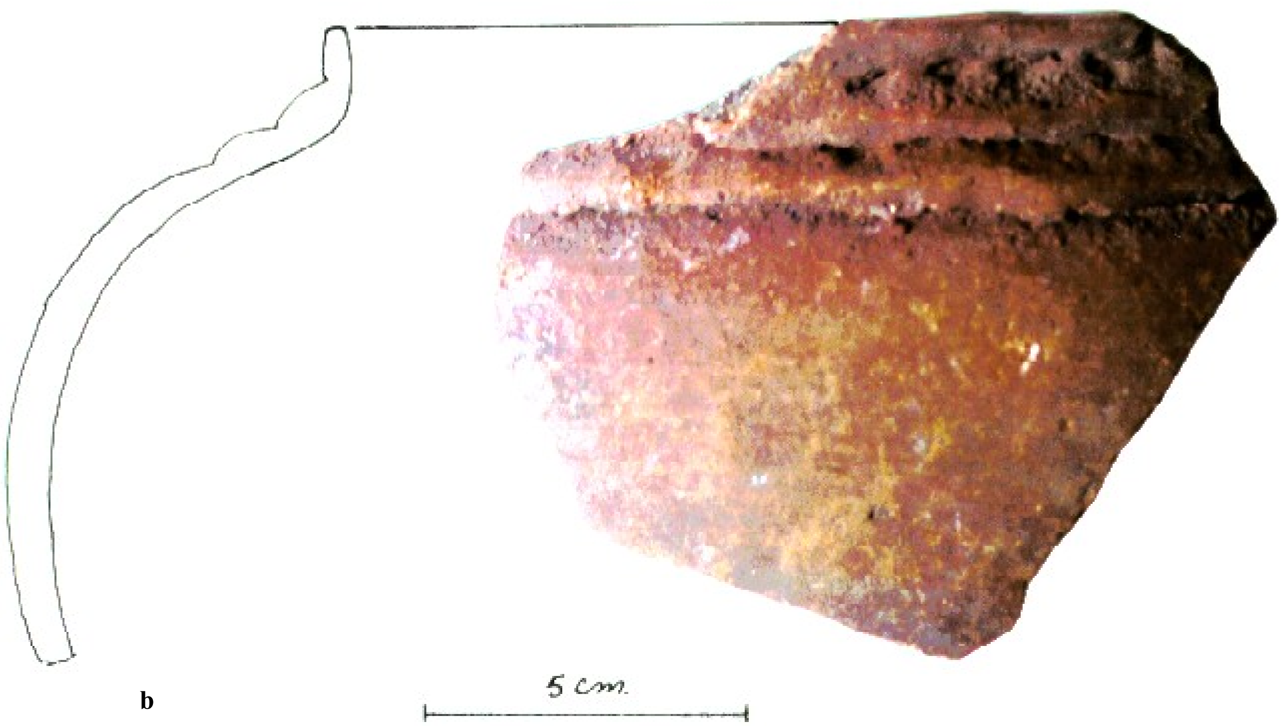
Awakati	Koroto	Shimaruku
Chuchubi	Kunuku	Shinsho
Chukulati	Malao?	Tabaku
Kabuya	Ñame?	Trupial
Kaiman	Ñapa	Tuna
Kakao	Patia?	Watakeli
Kanoa?	Pita	Watapana
Karko	Repa?	Waranawa
Kazabi	Ruku	Yuana
Koko	Sauku	Yuka

Amerindian-origin Words suggested to Haviser during Interviews on Bonaire (1990)

Amantaki	Kanapé	Onima
Amayeri	Kiwakarate	Samantaki
Atawa	Kokolishi	Totoleka
Ay	Kuku	Wanapa
Chicha	Nawati	Wiriwiri
Cordodo	Norwankan	



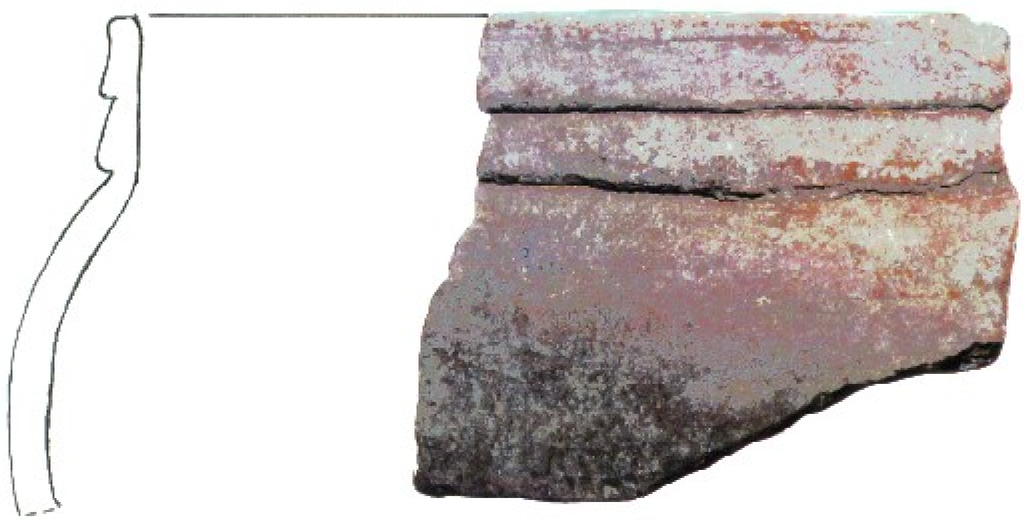
a



b

Figure B-1. Rimform 1, with finger indentation, a. TF/H 27-1: orifice diameter 38 cm, b. TF/H 424-2: 40 cm.

a



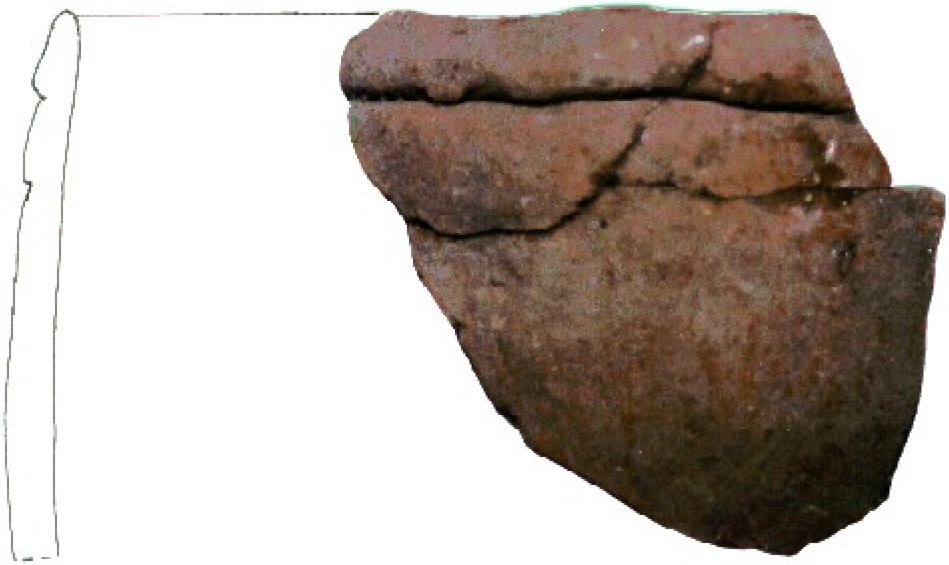
b

Figure B-2. Rimform 2B, a. with finger indentation, TF/H 700-1: orifice diameter 50 cm , b. TF/H 141-1: 32 cm. Scale 1:1.

a

b

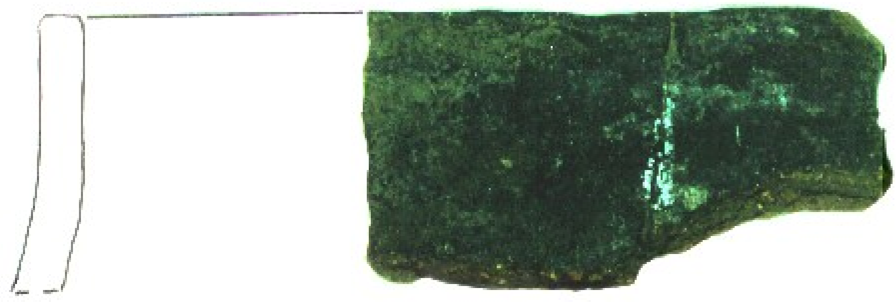
Figure B-3. a. Rimform 2C, with finger indentation, TF/H 718-3: orifice diameter 40 cm; b. rimform 3B, TF/H 21-2: 16 cm. Scale 1:1.



a

b

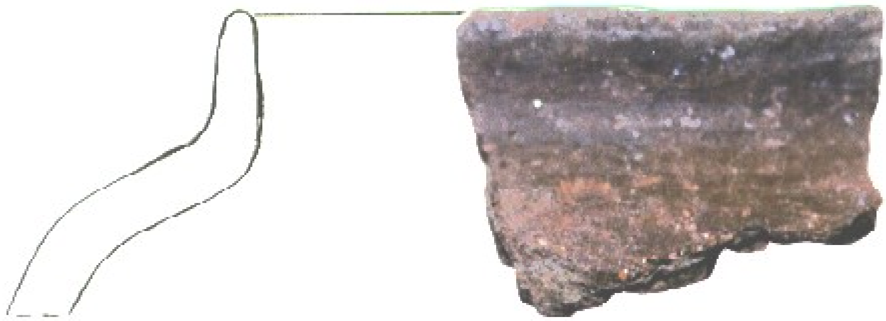
Figure B-4. a. Rimform 6C, with finger indentation, TF/H 496-2: orifice diameter 30 cm; b. rimform 7A, TF/H 396-1: 32 cm. Scale 1:1.



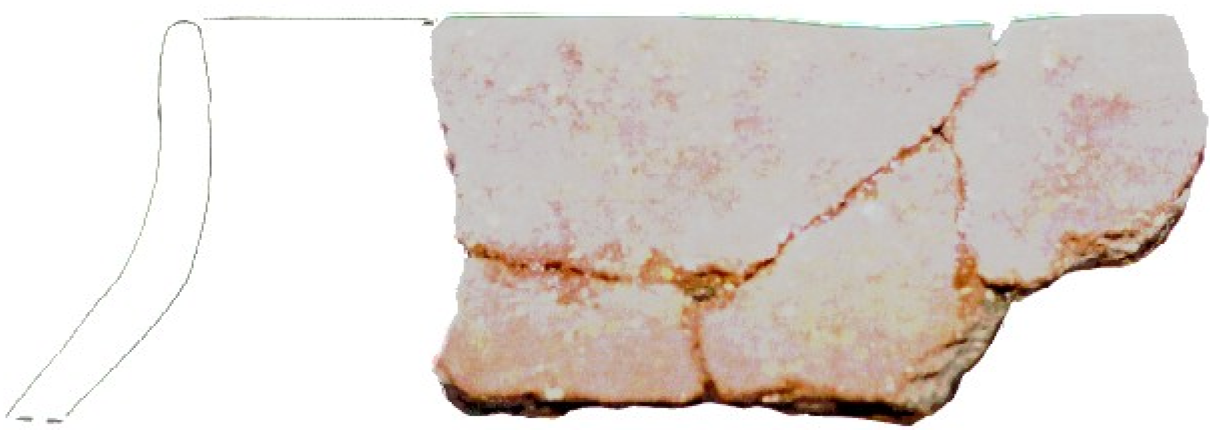
a

b

Figure B-5. a. Rimform 8A, TF/H 628-2: orifice diameter 34 cm; b. rimform 8B, TF/H 718-4: 36 cm. Scale 1:1.



a



b

Figure B-6. a. Rimform 8B, TF/H 932-1: orifice diameter 26 cm; b. rimform 8C, TF/H 419-10: 48 cm. Scale 1:1.

a

b

FigureB-7. a. Rimform 9, TF/H 497-1: orifice diameter 30 cm; b. rimform 10A, TF/H 419-16: 44 cm. Scale 1:1.

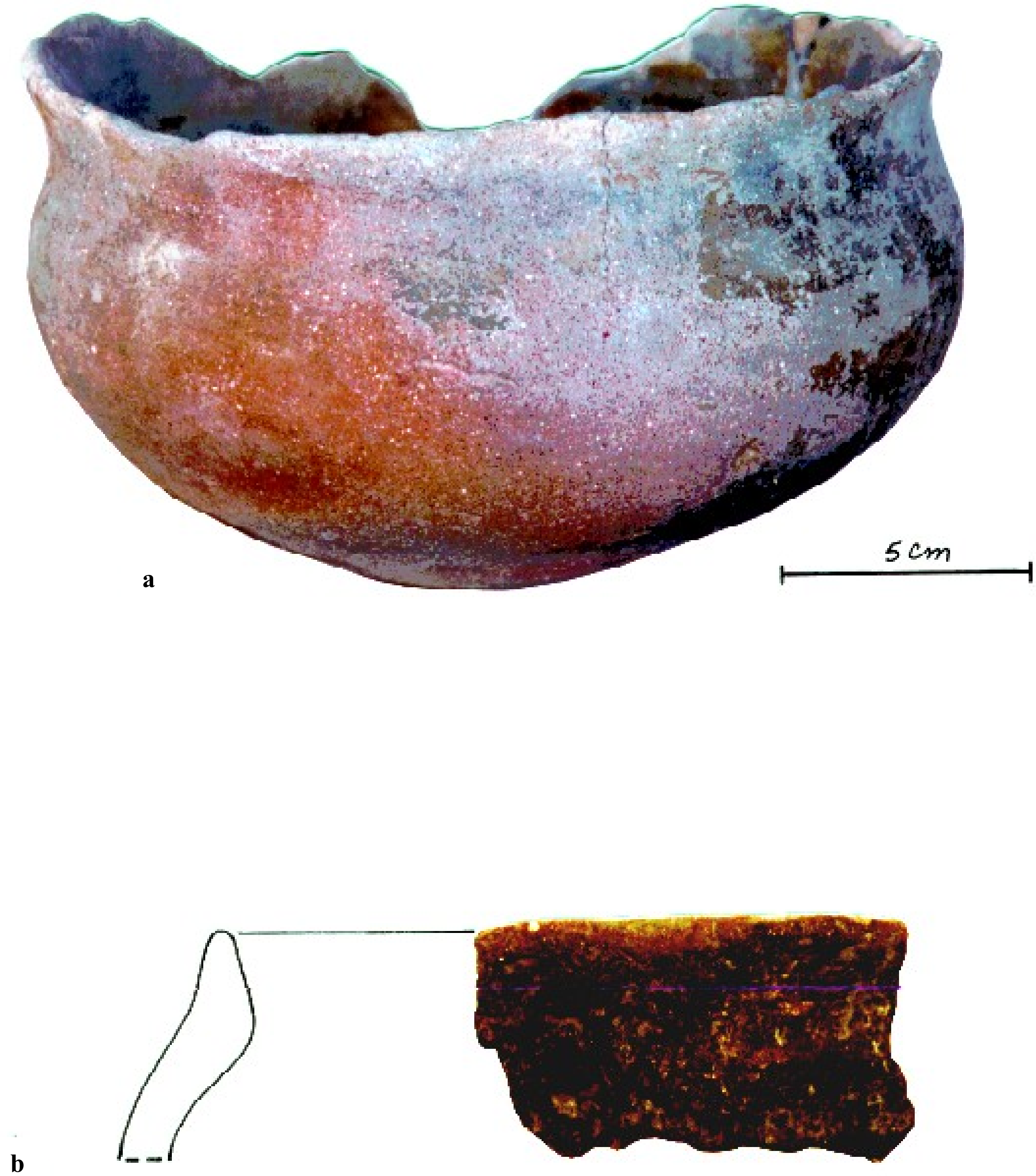


Figure B-8. a. Rimform 10A, TF/H 718-9; b. rimform 11A, TF/H 150-1: orifice diameter 16 cm (scale 1:1).

a

b

Figure B-9. Rimform 13B, a. with anthropomorphic modelling, TF/H 359-2: orifice diameter 12 cm, b. TF/H 5-1: 13 cm. Scale 1:1.

a

b

Figure B-10. a. Rimform 15A, TF/H 180-1: orifice diameter 36 cm; b. rimform 15B, TF/H 567-1: 38 cm. Scale 1:1.

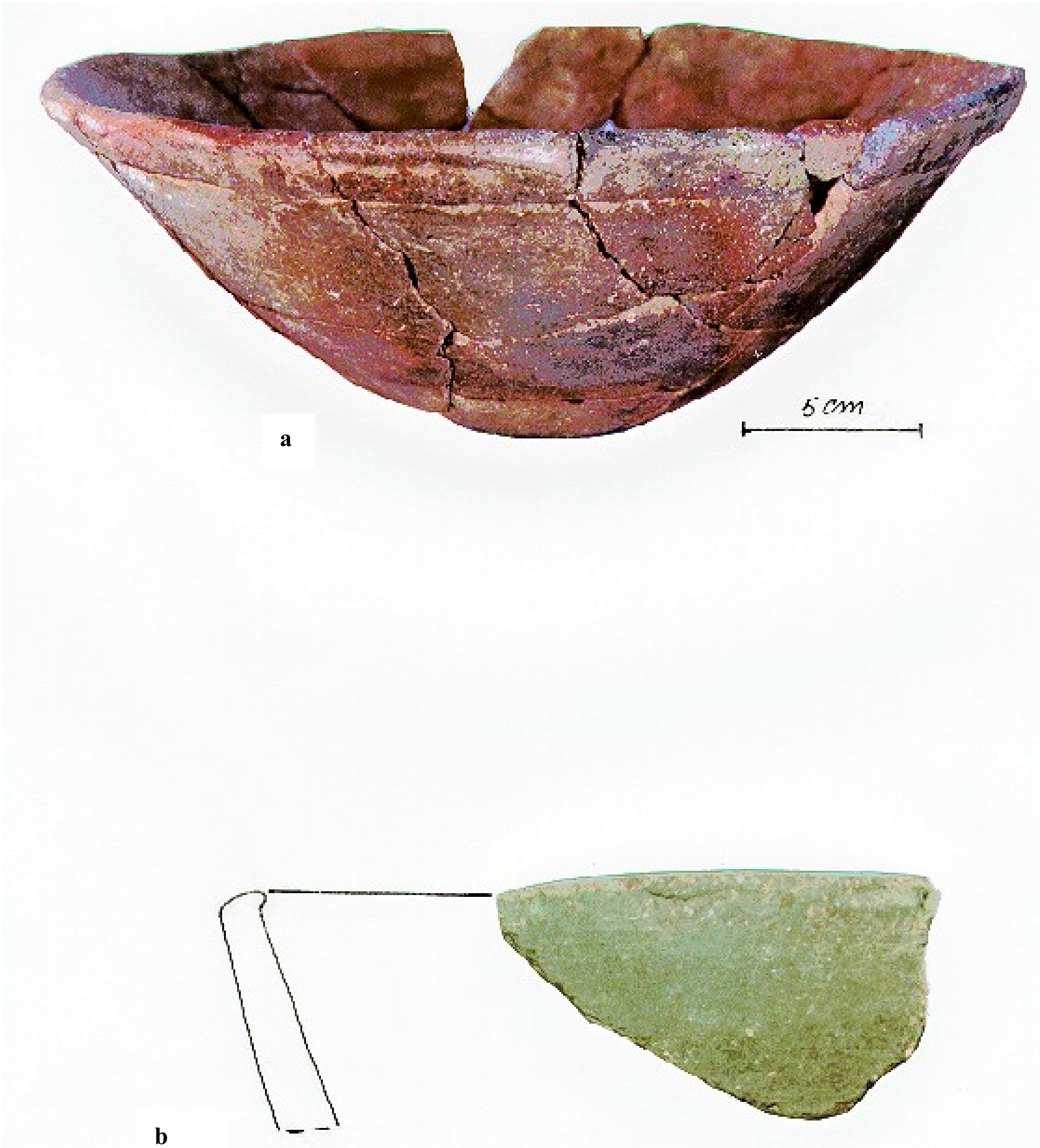
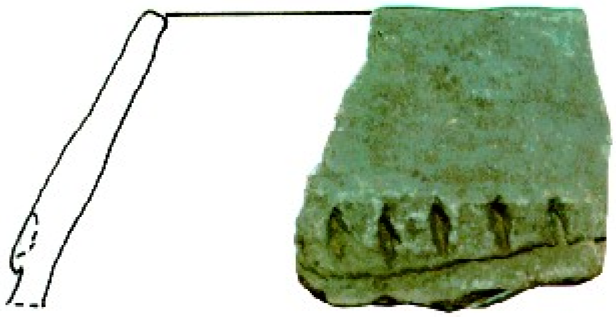
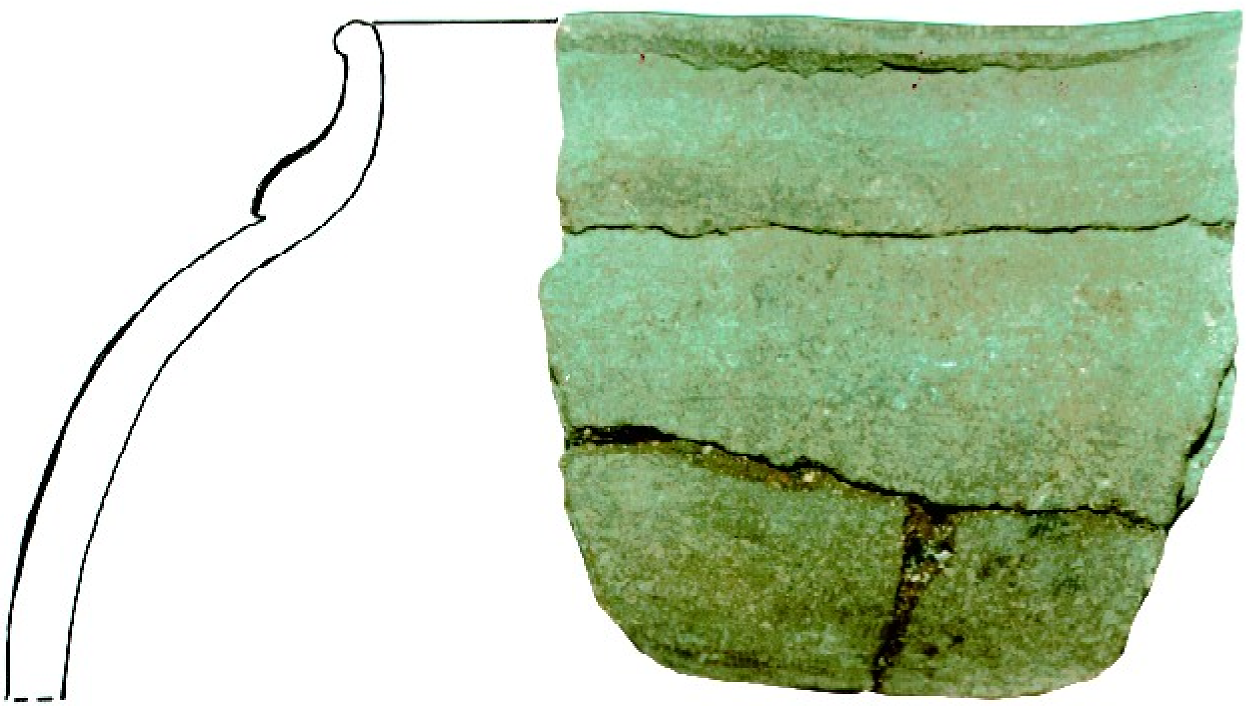


Figure B-11. Rimform 16, a. TF/H 706-1, b. TF/H 20-2: orifice diameter 32 cm (Scale 1:1).

Figure B-12. Rimform 17B, a. TF/H 8-1: orifice diameter 32 cm (scale 1:1), b. TF/H 708-1.



b



b

Figure B-13. a. Rimform 17B, with punctated cane impressions, TF/H 507-1: orifice diameter 24 cm; b. rimform 18A, TF/H 5-2: 48 cm. Scale 1:1.

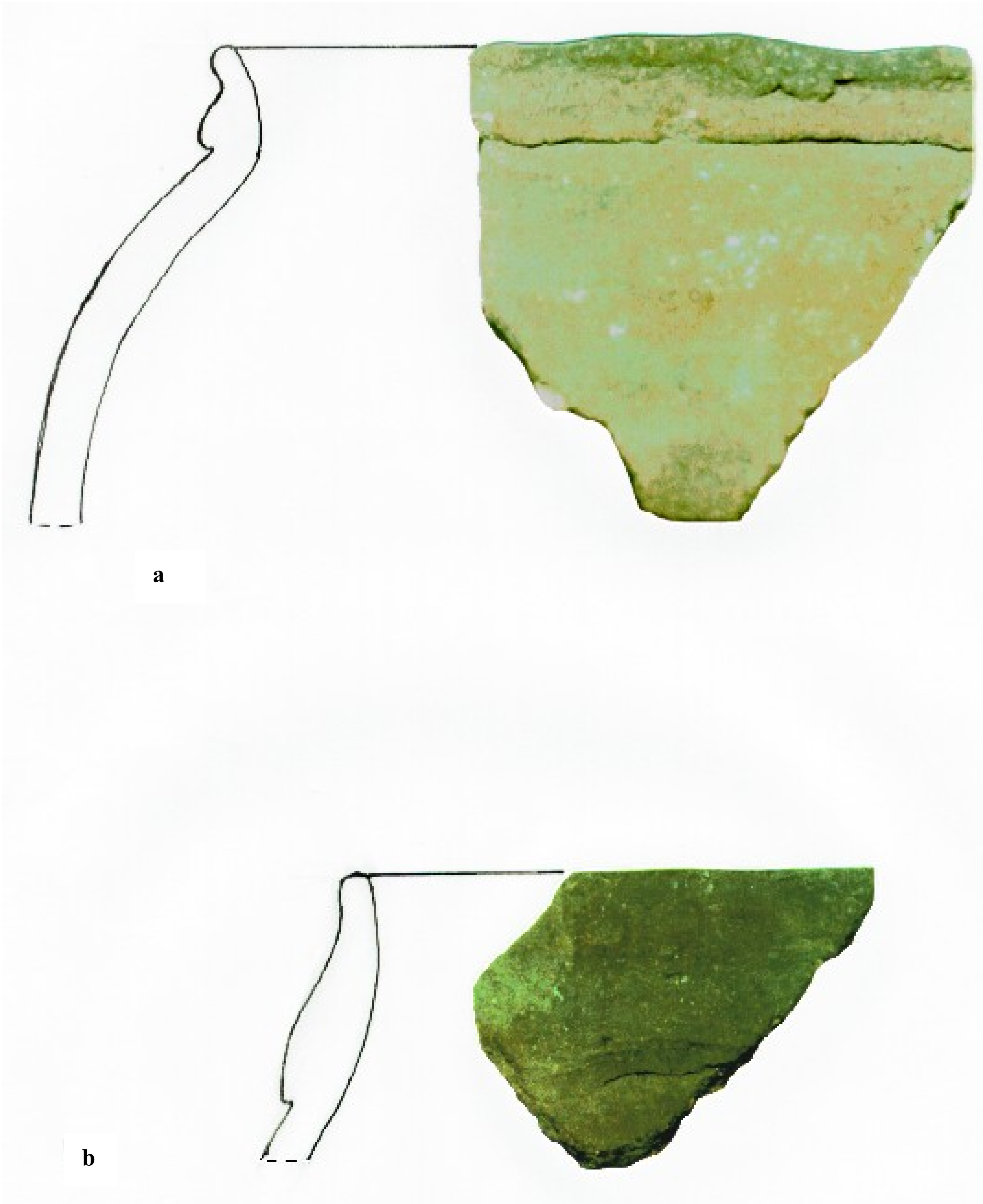


Figure B-14. a. Rimform 18A, with finger indentation, TF/H 790-1: orifice diameter 26 cm; b. rimform 18B, TF/H 873-1: 20 cm. Scale 1:1.

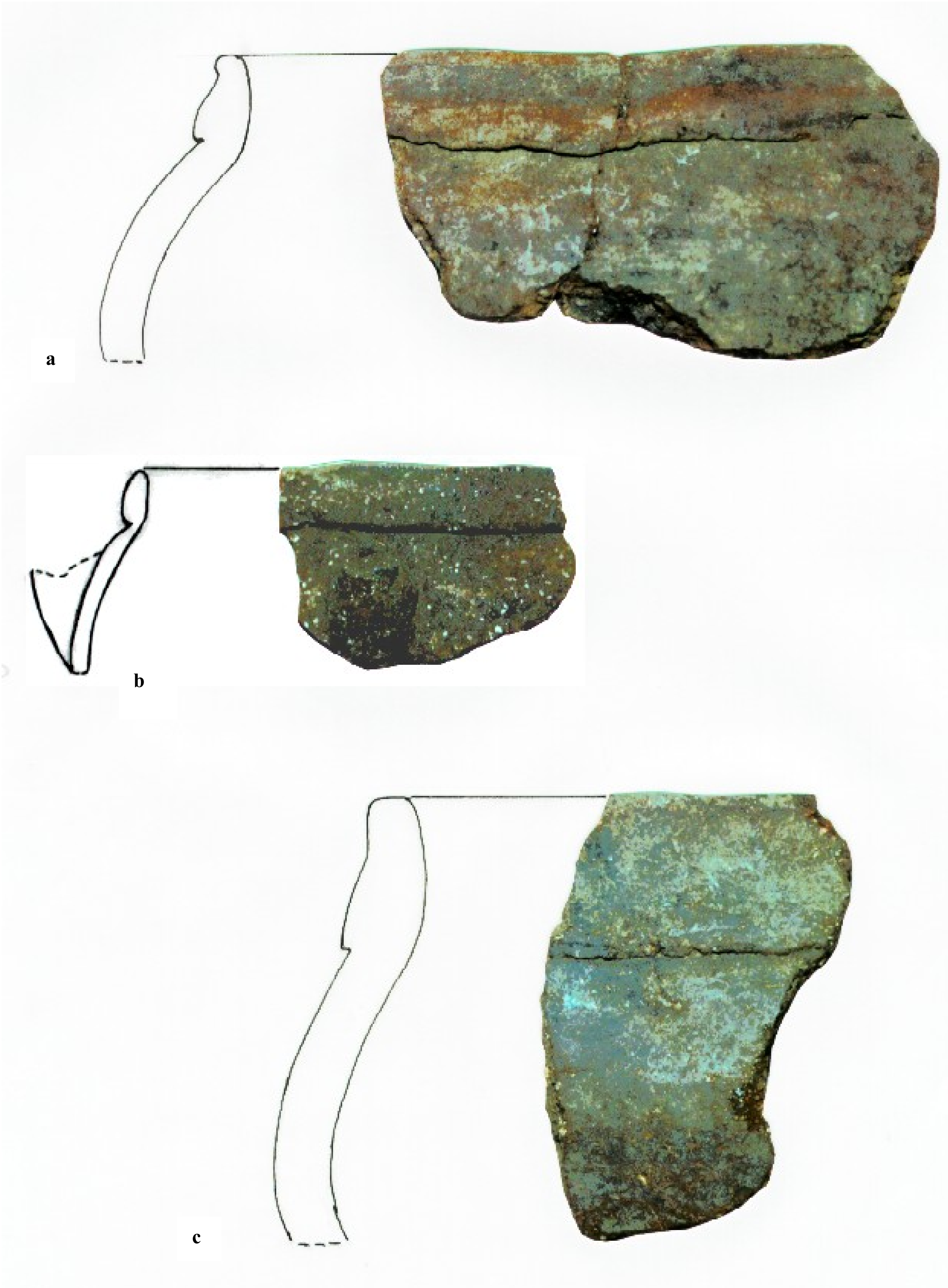


Figure B-15. Rimform 19A, a. TF/H 185-2: orifice diameter 30 cm, b. with a side lug, TF/H 150-4: 15 cm; c. rimform 19B, with finger indentation, TF/H 648-1: 28 cm. Scale 1:1.

Figure B-16. a. Rimform 20B, TF/H 159-3: orifice 50 cm; b. rimform 21, with short incisions, TF/H 381-9: 20 cm (scale 1:1).

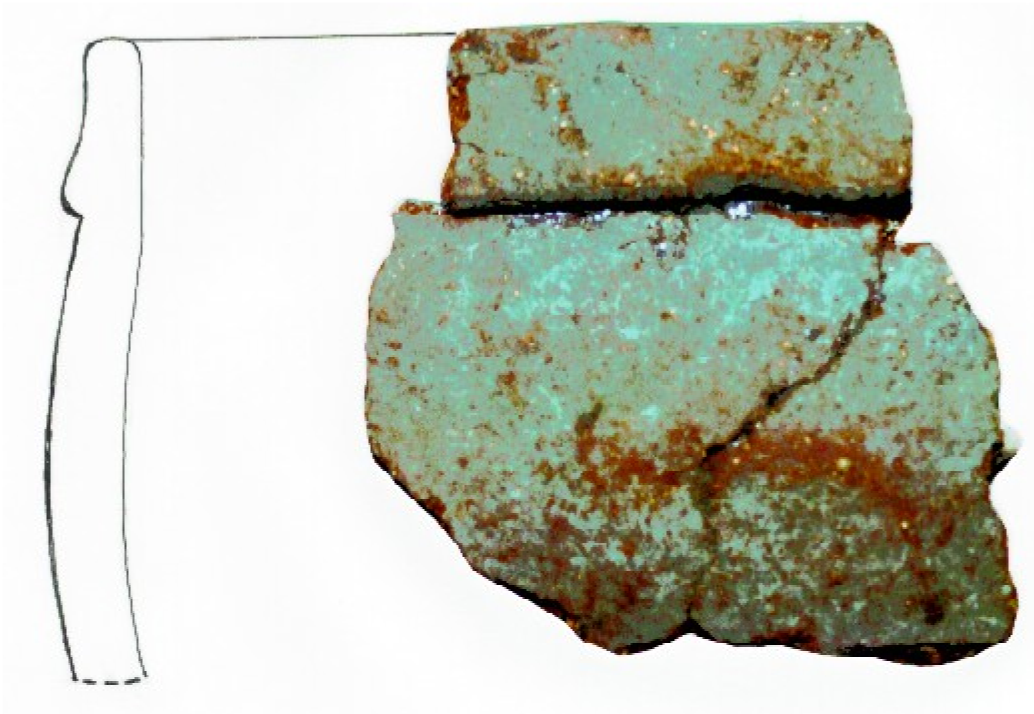


Figure B-17. Rimform 22, with finger indentation, TF/H 170-2: orifice diameter 42 cm. Scale 1:1.

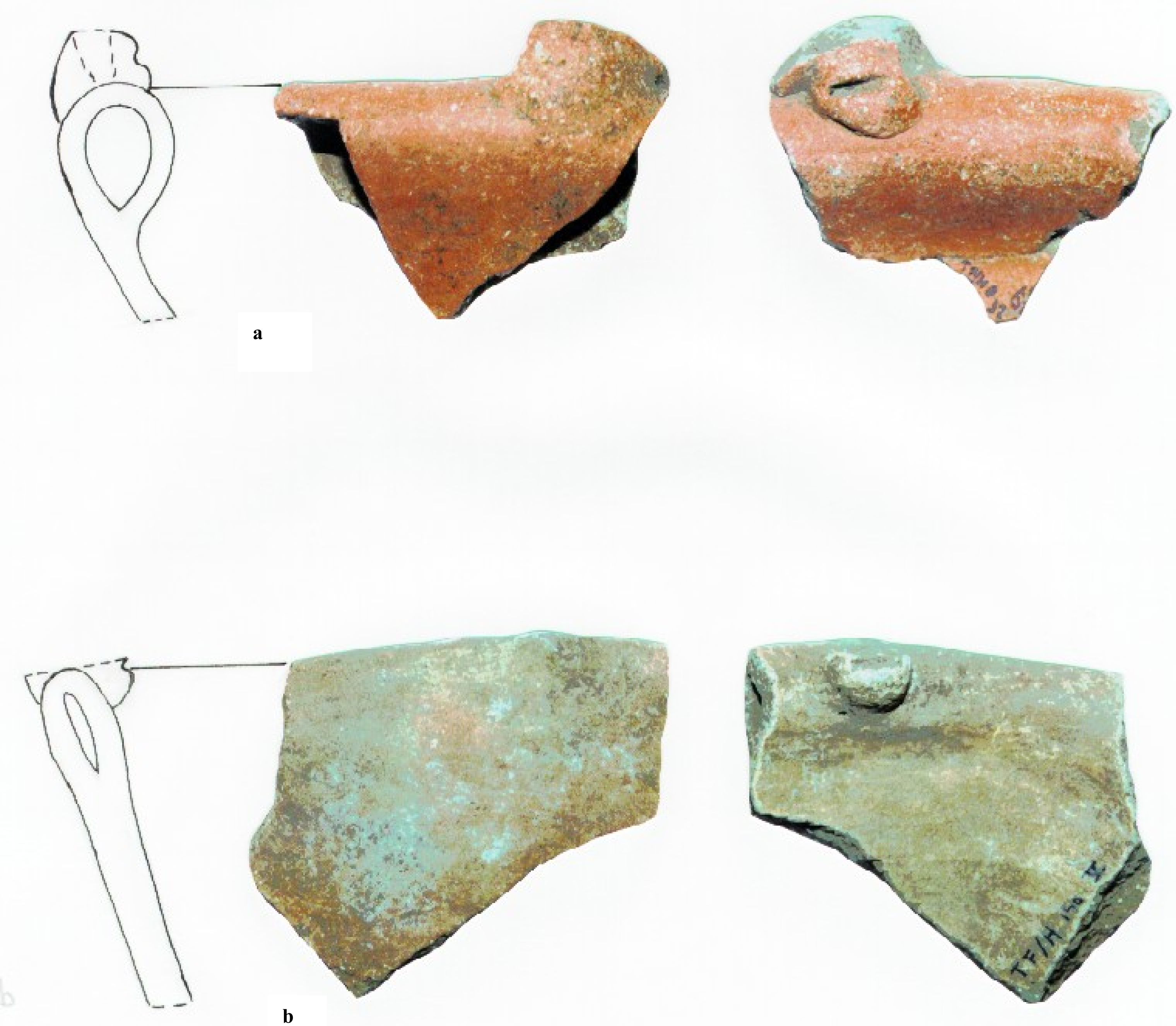


Figure B-18. a. Rimform 1A, TF/H 832-3: orifice diameter 12 cm; b. rimform 1B, TF/H 150-5: 16 cm. Scale 1:1.

Figure B-19. Rimform 1C, a. black-on-white painted inside and outside, TF/H 165-1: orifice diameter ? (scale 1:1), b. red-on-plain painted on the outside and inside and with anthropomorphic modelling, TF/H 832-2: 16 cm.

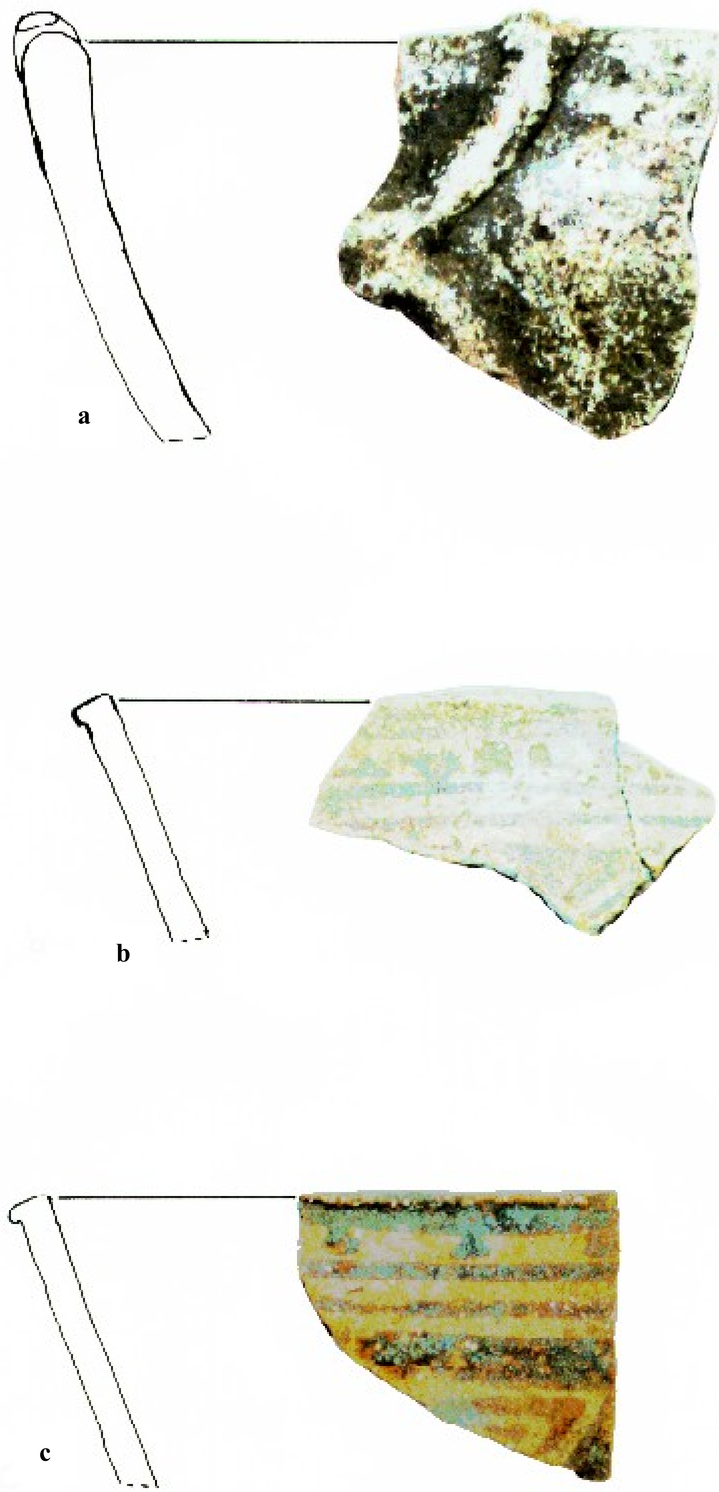


Figure B-20. a. Rimform 3A, bl,ack-on-white painted with a zoomorphic modelled appliqué, TF/H 150-6: orifice diameter 20 cm; rimform 3B, b. black-on-white painted, TF/H 419-6: 20 cm, c. black and red-on-white painted, TF/H 343-2: 26 cm. Scale 1:1.

Figure B-21. Rimform 3C, a. black-on-white painted, TF/H 539-1: orifice diameter 28 cm (scale 1:1), b. with rim lugs, TF/H 368-1: 11 cm.

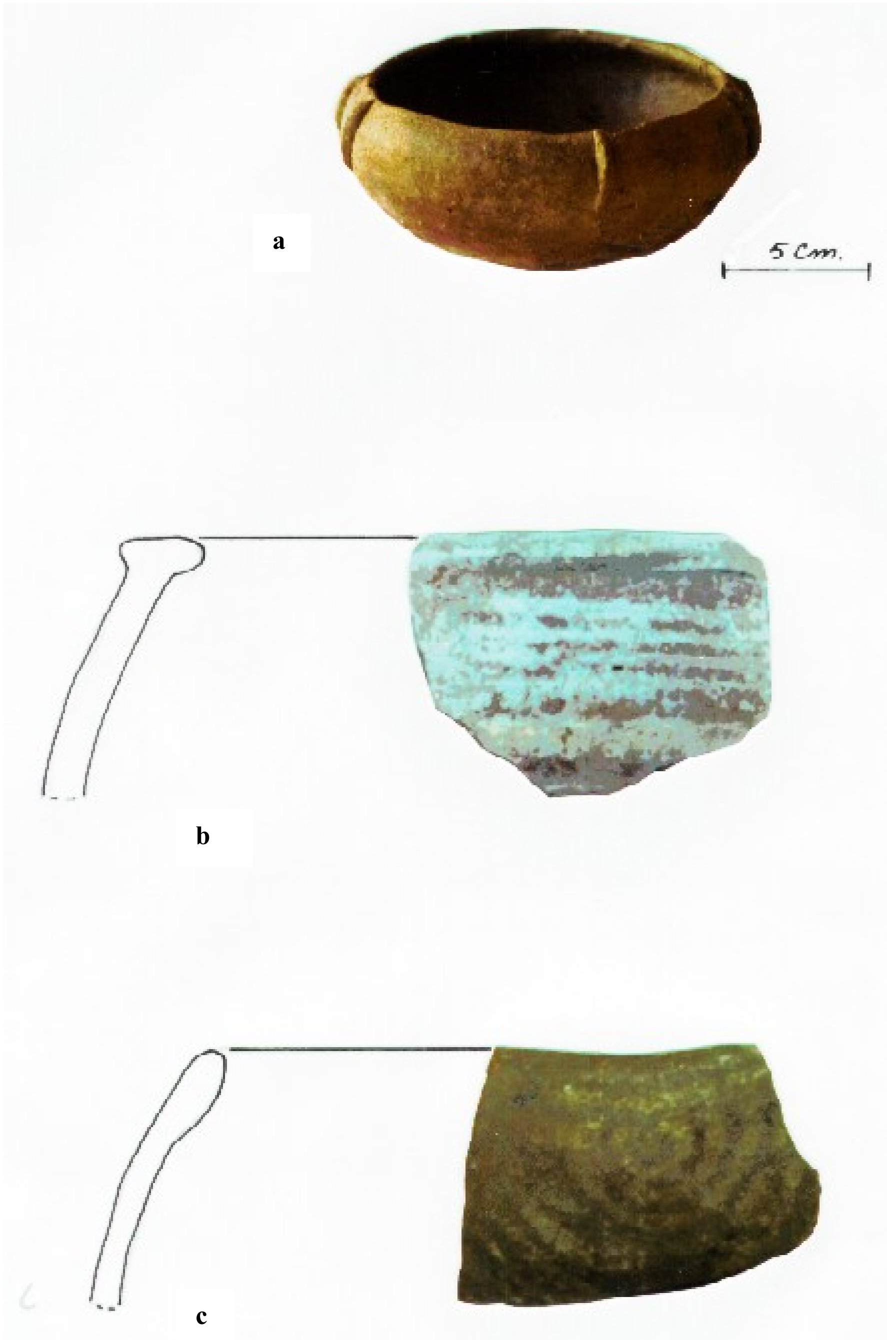


Figure B-22. a. Rimform 4A, with appliqué fillets, TF/H 197-2; rimform 4B, black-on-white painted, b. TF/H 156-2: orifice diameter 40 cm, c. radial sun motif, TF/H 52-1: 14 cm. Scale 1:1, except a.

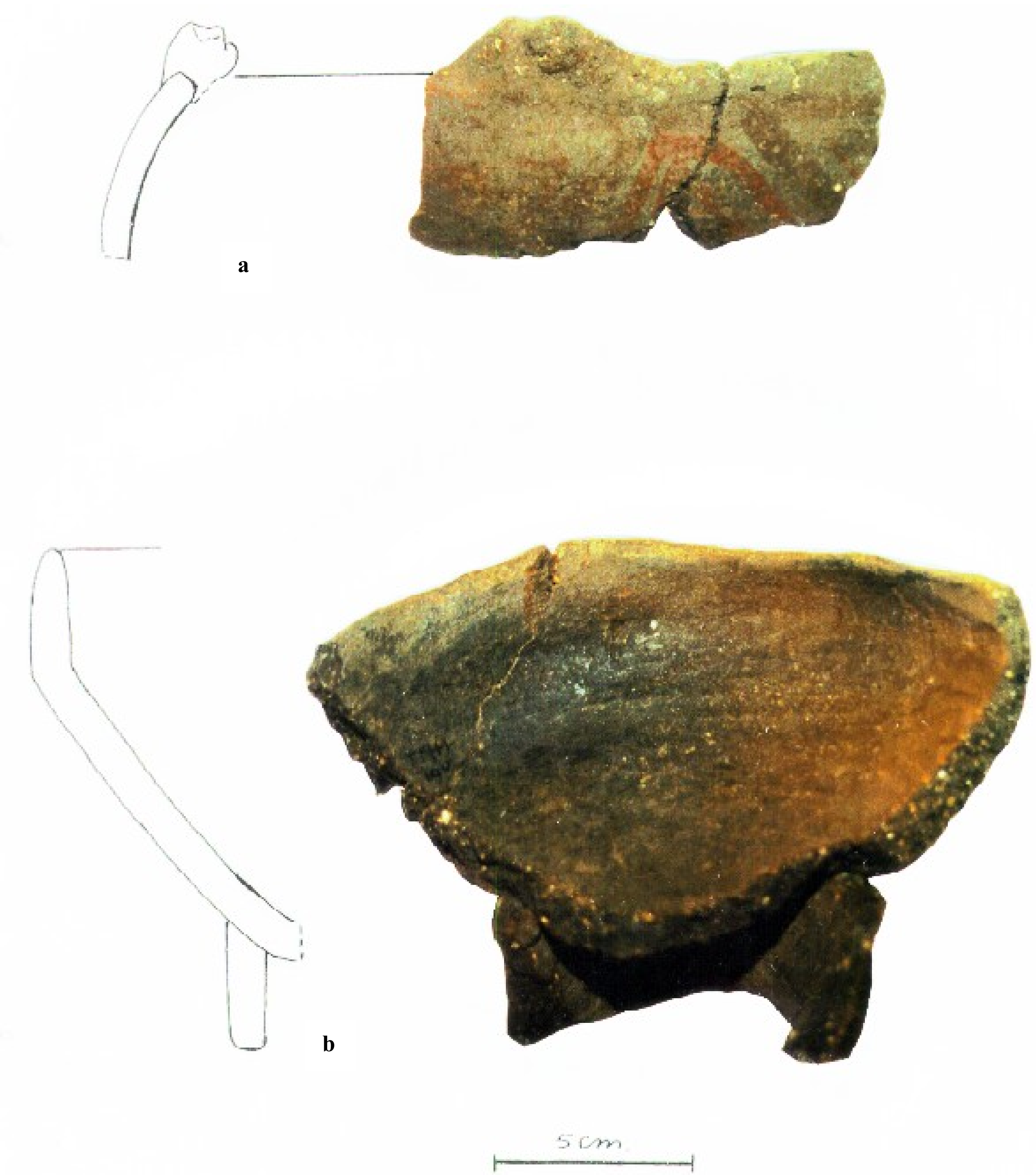
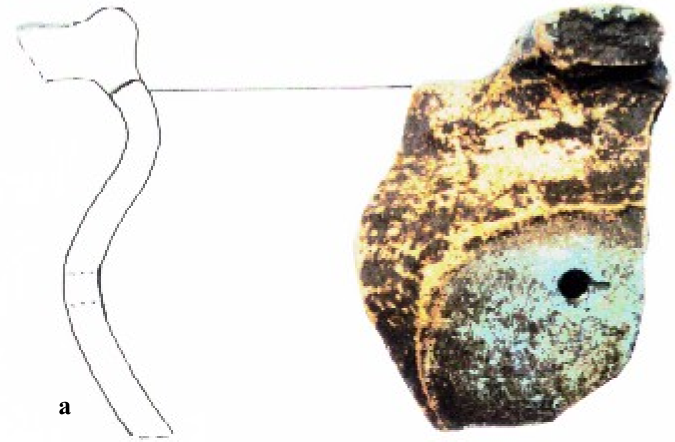


Figure B-23. a. Rimform 4B, black and red-on-plain painted modelling, TF/H 497-3: orifice diameter 14 cm (scale 1:1); b. rimform 5C, TF/H 192-1.



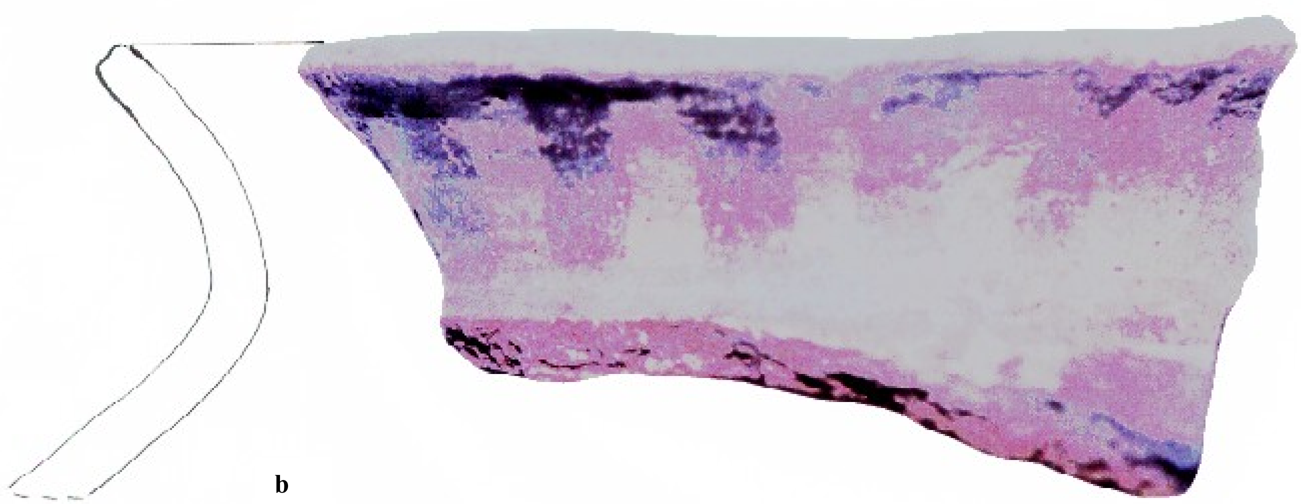
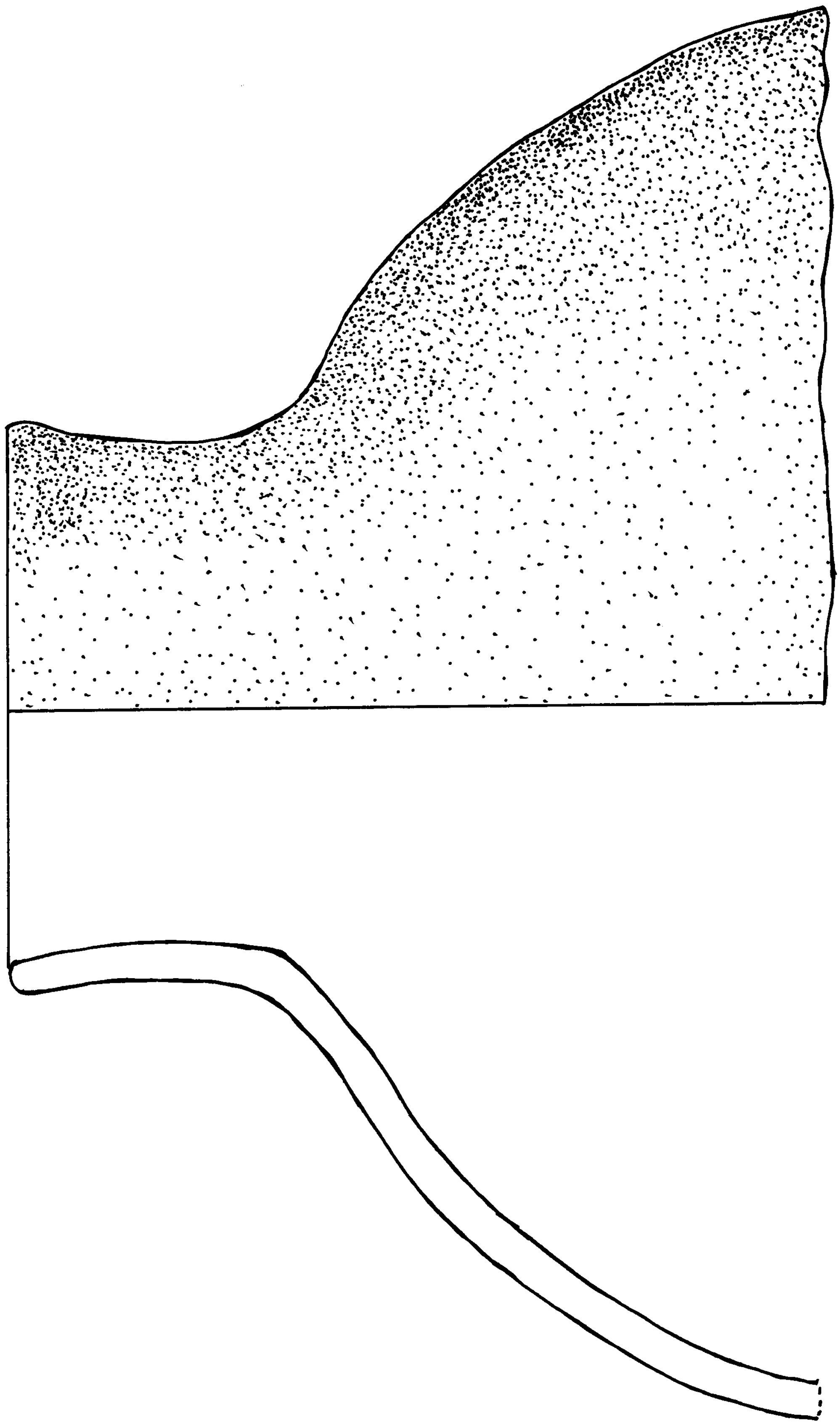
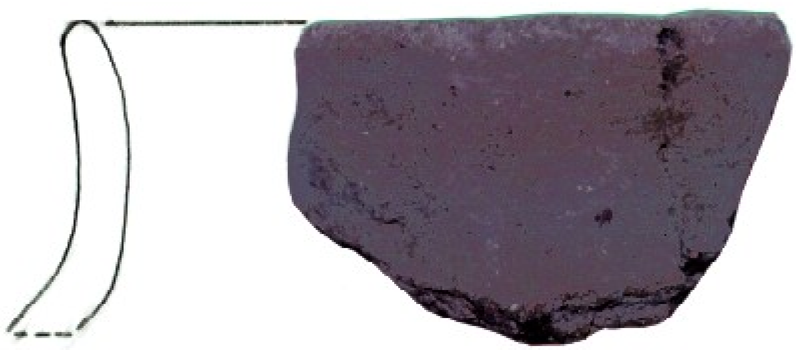


Figure B-24. a. Rimform 9A, black-on-white painted with a perforation and a negative evidence of a handle, TF/H 150-12: orifice diameter 18 cm; b. rimform 12 black-on-plain painted, TF/H 190-1: 18 cm. Scale 1:1.



a

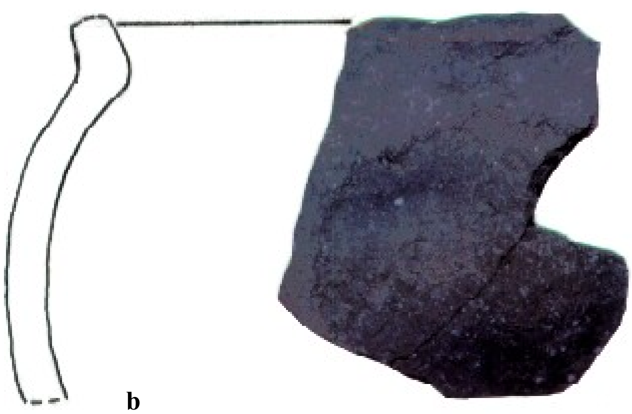


b

Figure B-26. Rimform 16A, a. black-on-white painted, TF/H 936-1: orifice diameter 8 cm, b. TF/H 190-4: 10 cm. Scale 1:1..

Figure B-27. Rimform 17, a. TF/H 585-5 (scale 1:1), b. restored black-on-plain painted bulbar necked jar, TF/H 190-13.

a



b

Figure B-28. a. Rimform 17A, black and red-on-white painted bulbar neck with an anthropomorphic modelling, TF/H 1-3; b. rimform 18, TF/H 620-3: orifice diameter 8 cm. Scale 1:1.

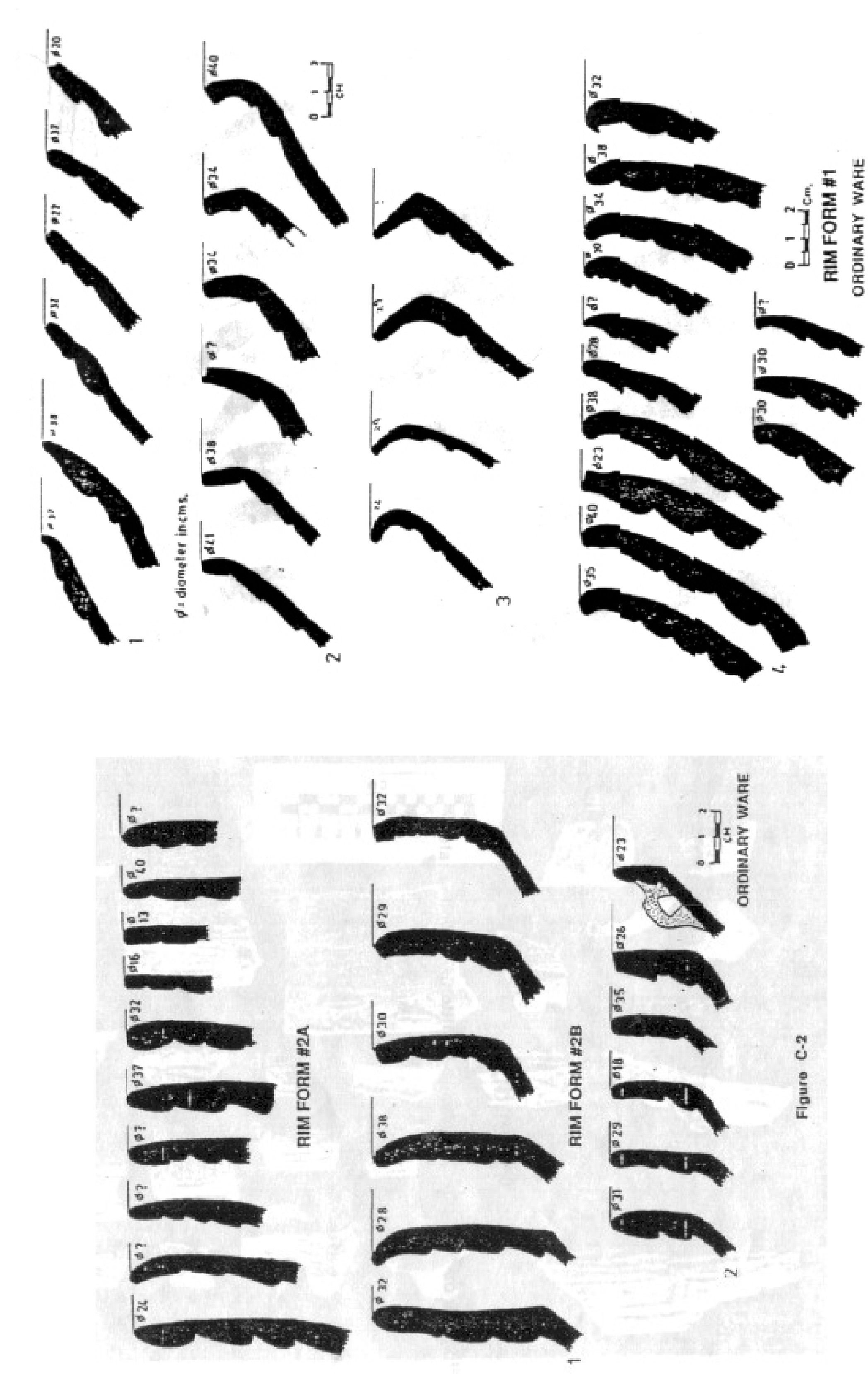
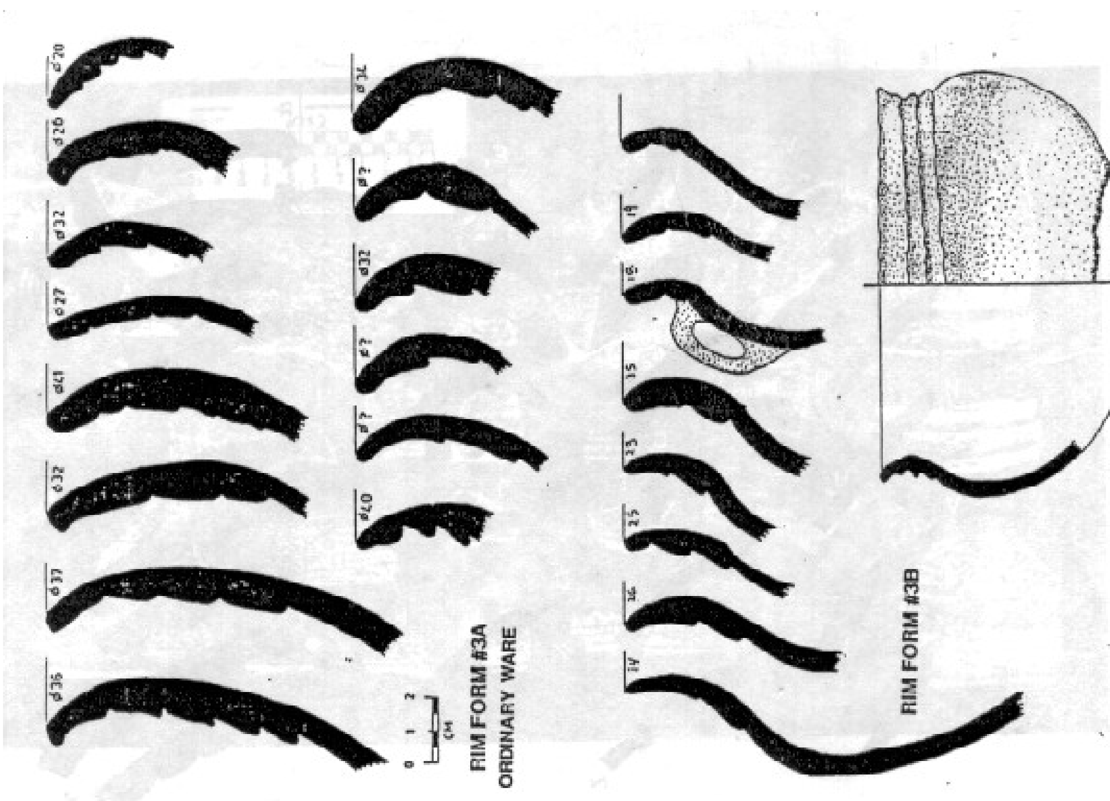
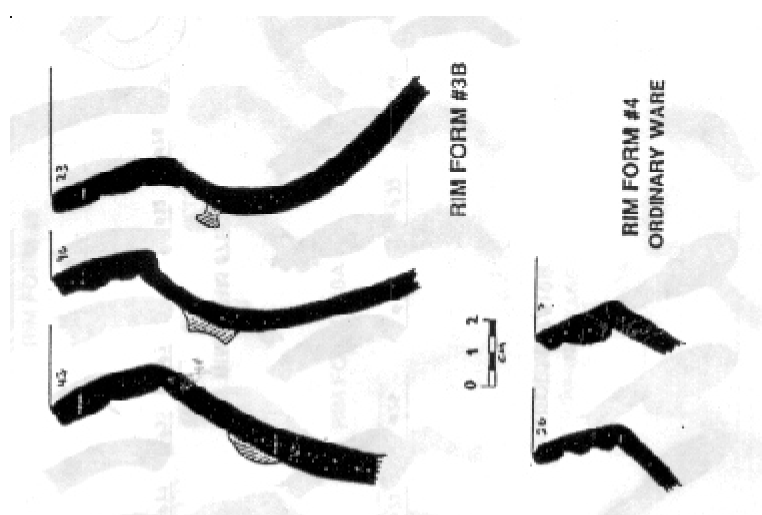

ø = diameter in cms.
RIM FORM #1
ORDINARY WARE
RIM FORM #2A
RIM FORM #2B
ORDINARY WARE

Figure C-2


RIM FORM #3A
ORDINARY WARE
RIM FORM #3B


RIM FORM #3B
RIM FORM #4
ORDINARY WARE

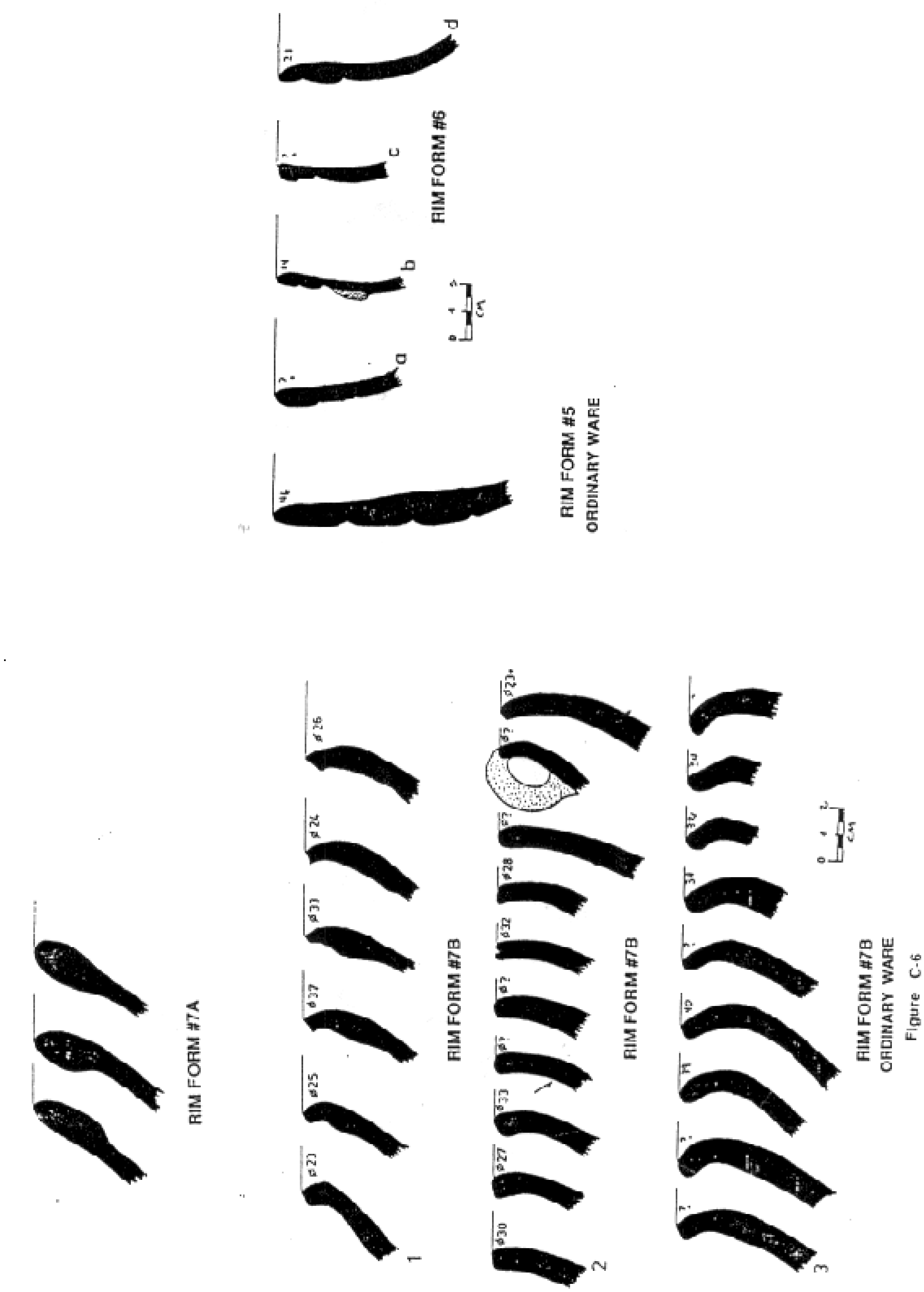

RIM FORM #6
RIM FORM #5
ORDINARY WARE
RIM FORM #7A
RIM FORM #7B
RIM FORM #7B
RIM FORM #7B
ORDINARY WARE

Figure C-6

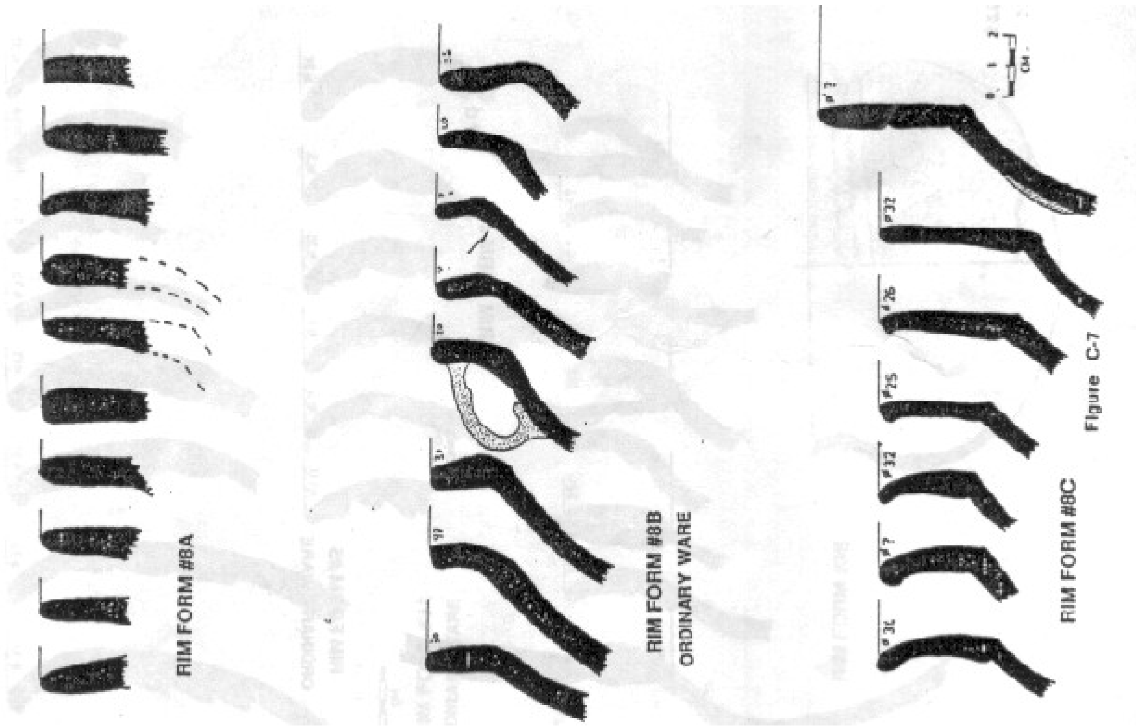


Figure C-7

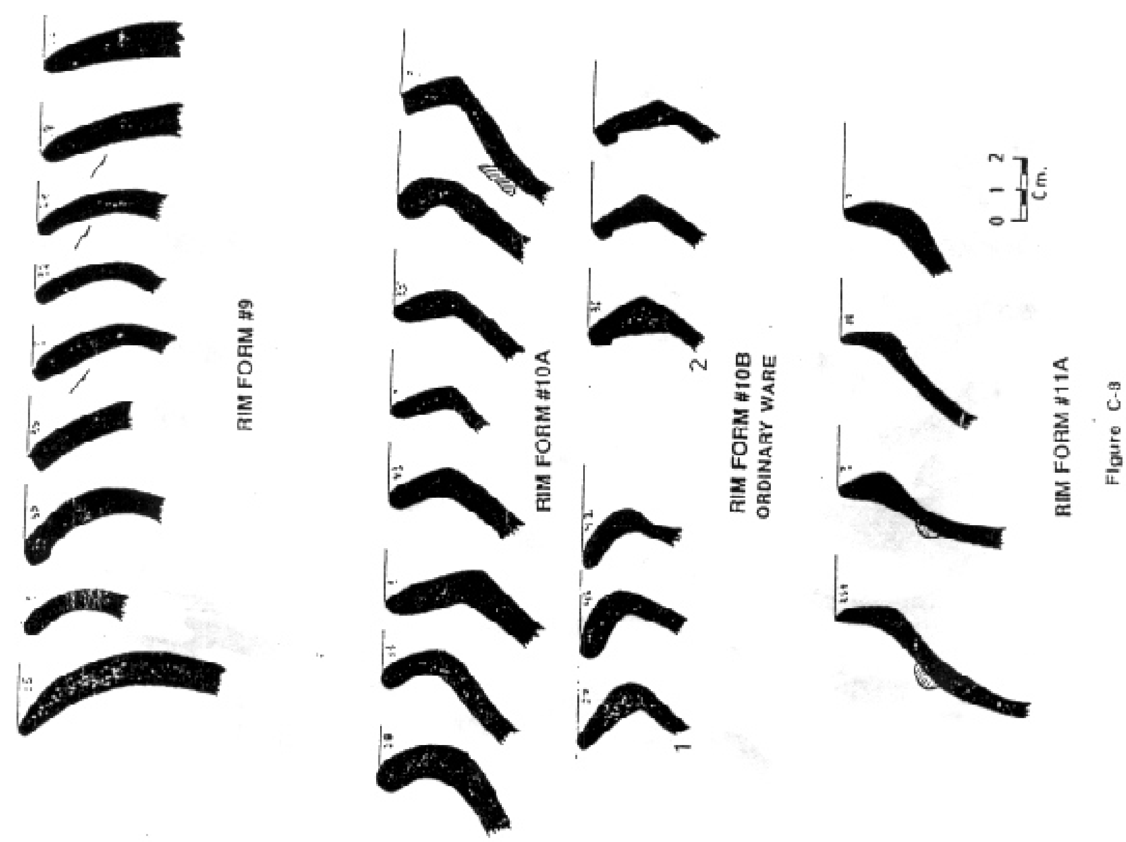


Figure C-8

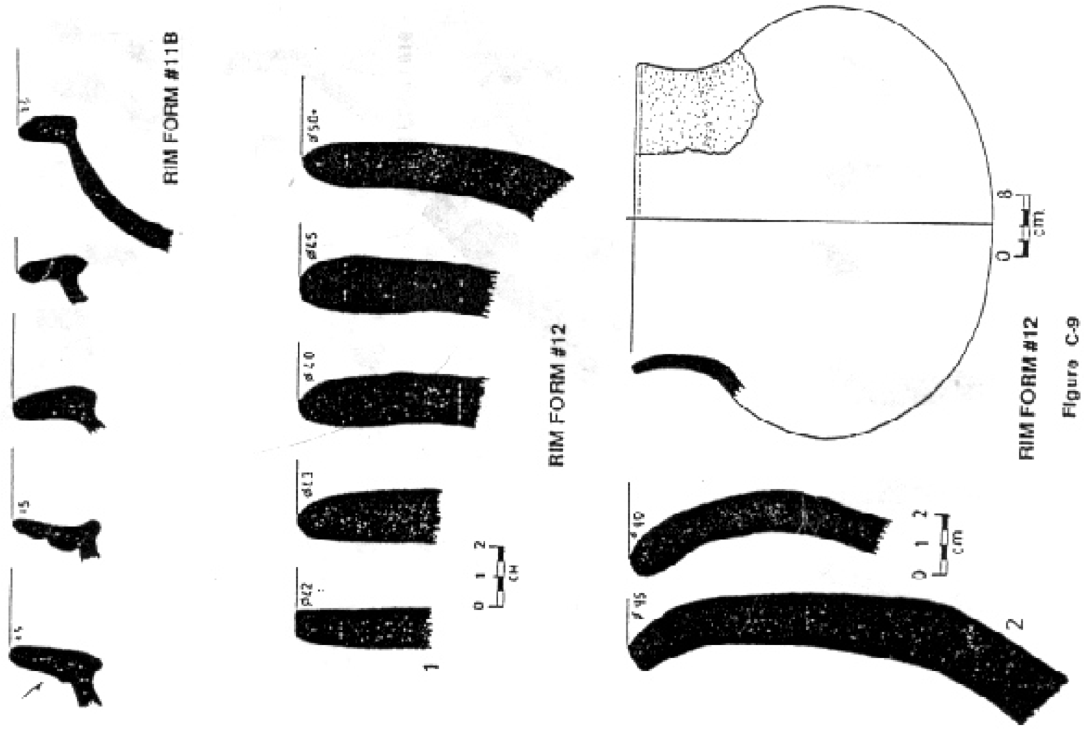


Figure C-9

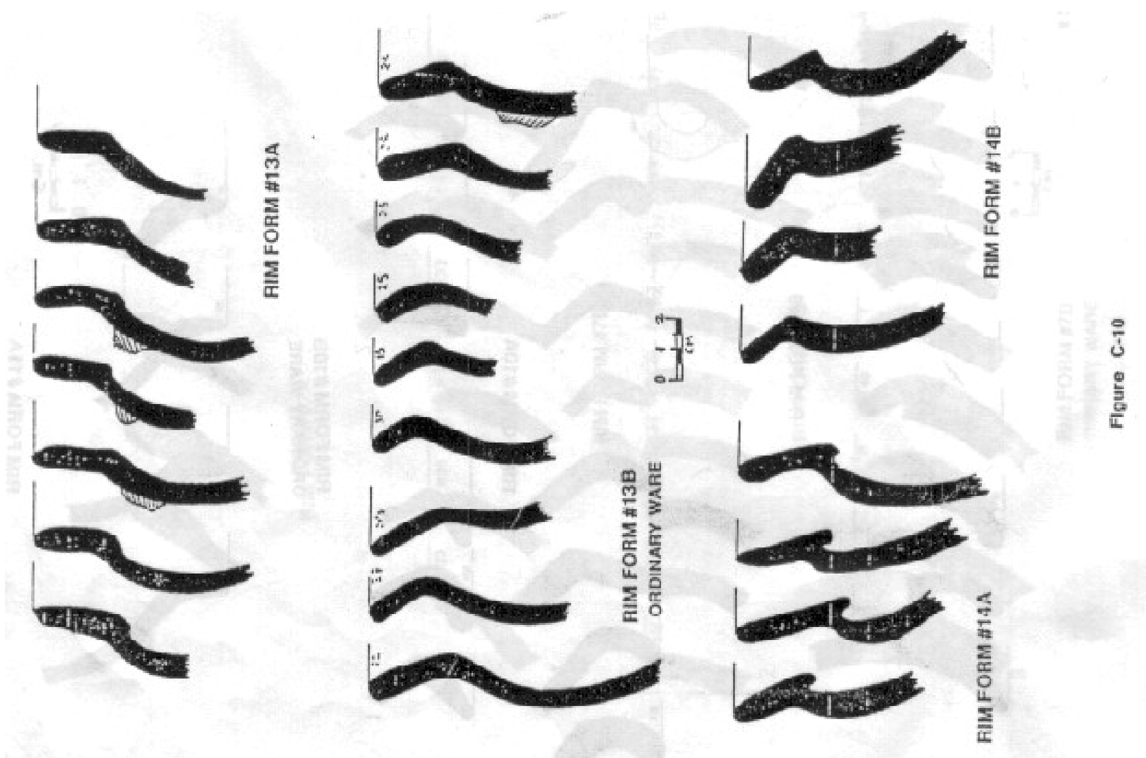


Figure C-10

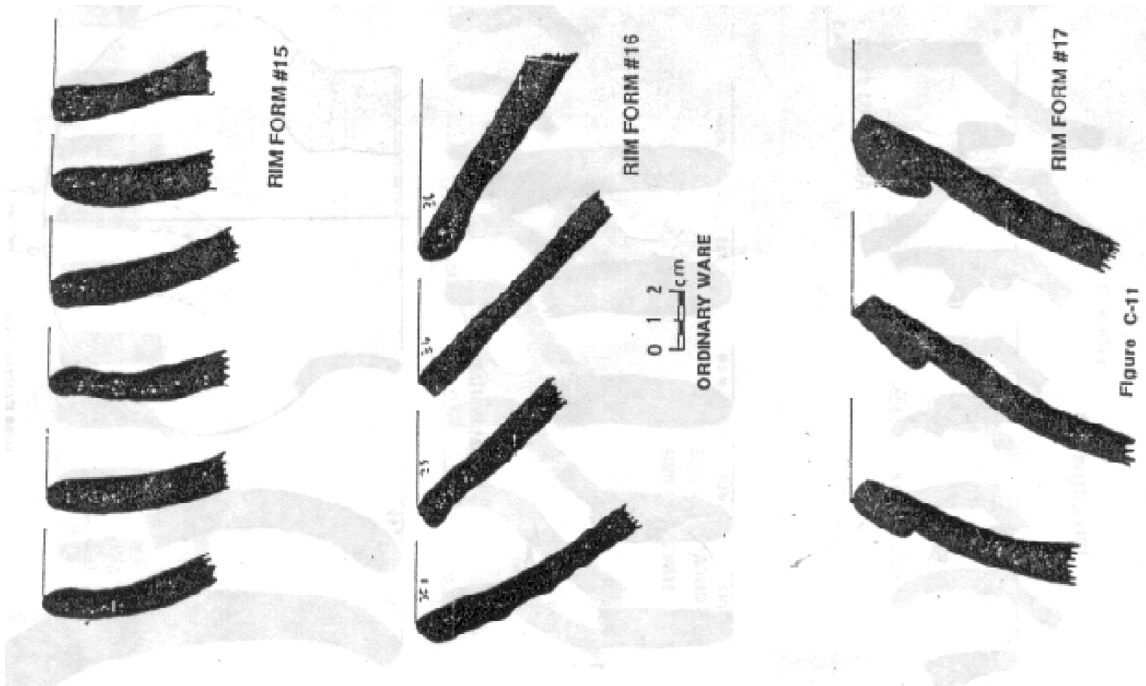


Figure C-11

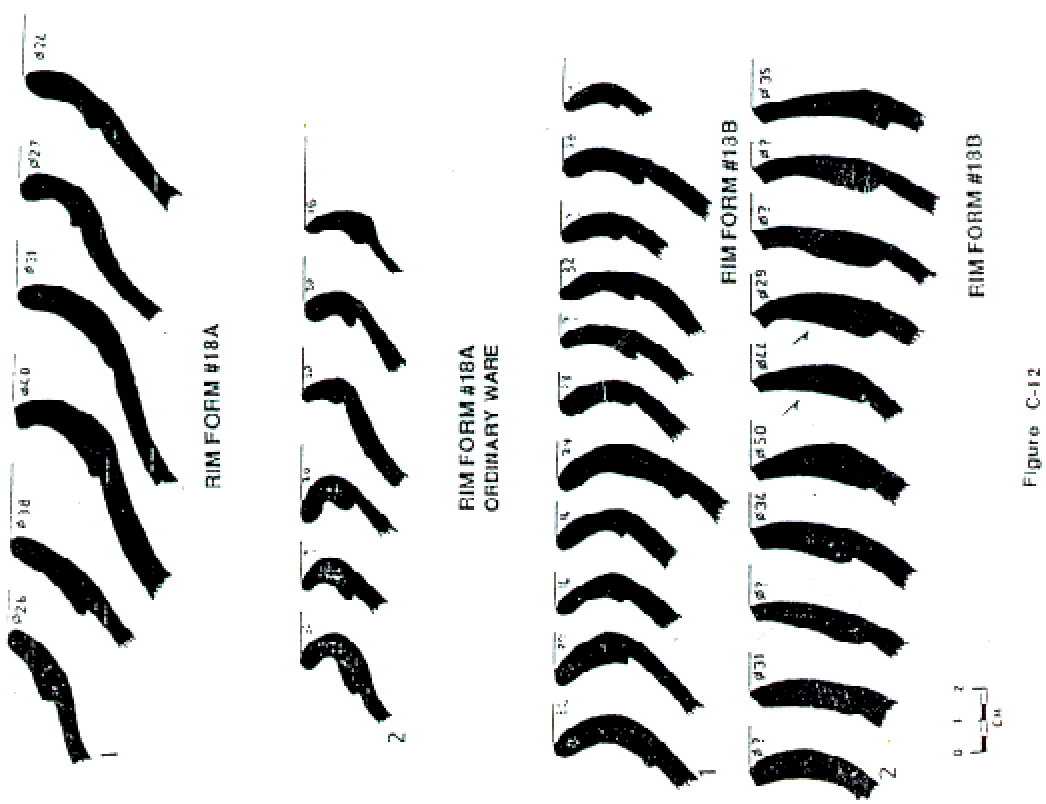


Figure C-12

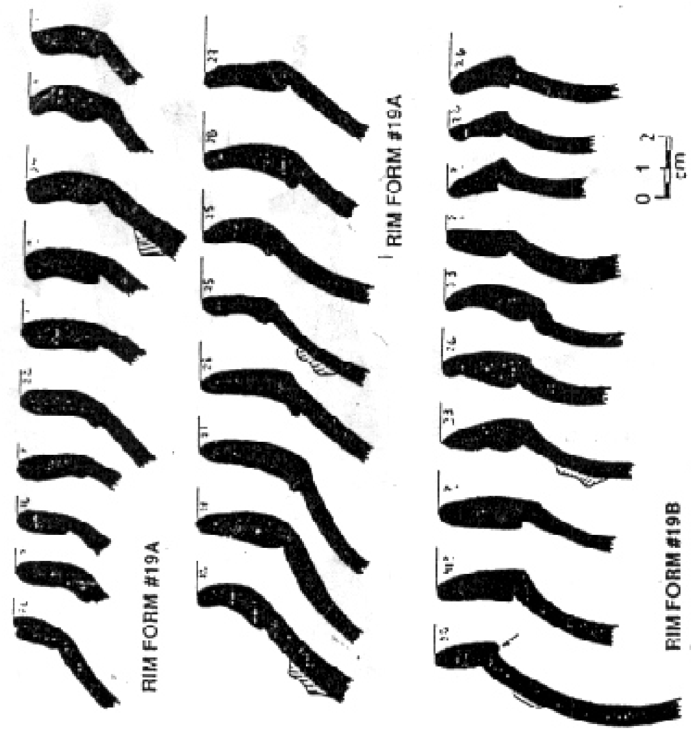


Figure C-13

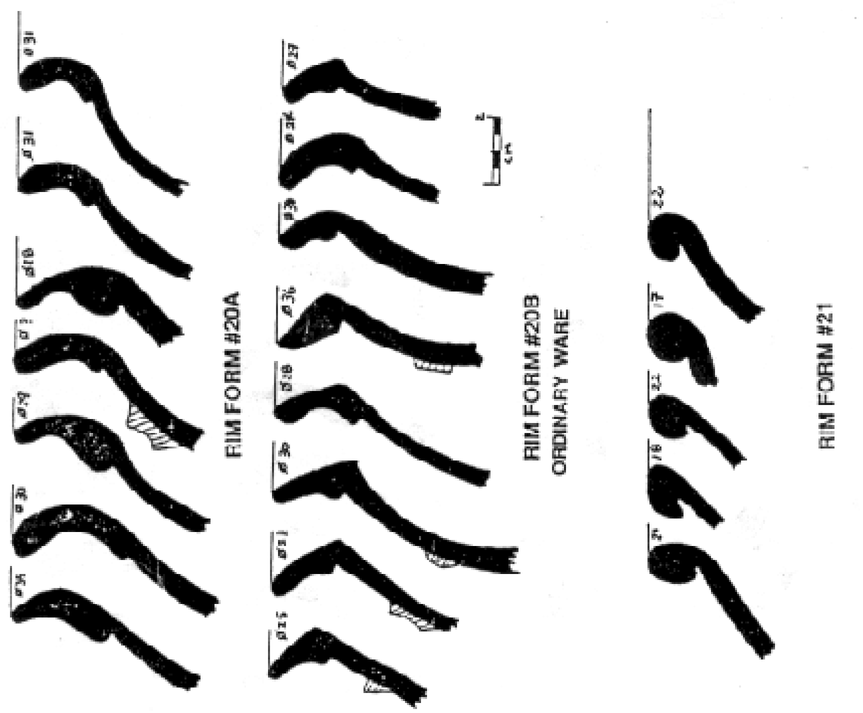


Figure C-14

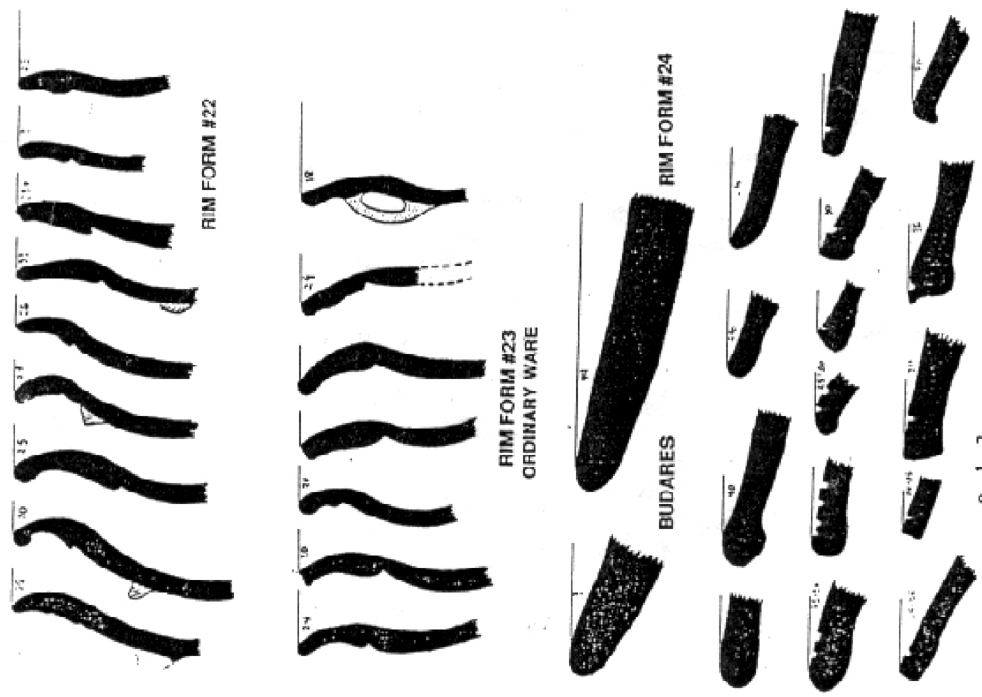


Figure C-15

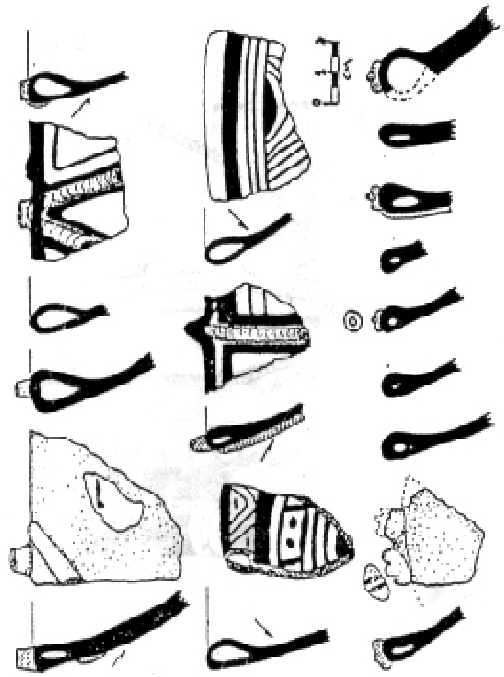


Figure C-16: Hollow rim with black on white paint (Dabajuran Sub-Tradition).

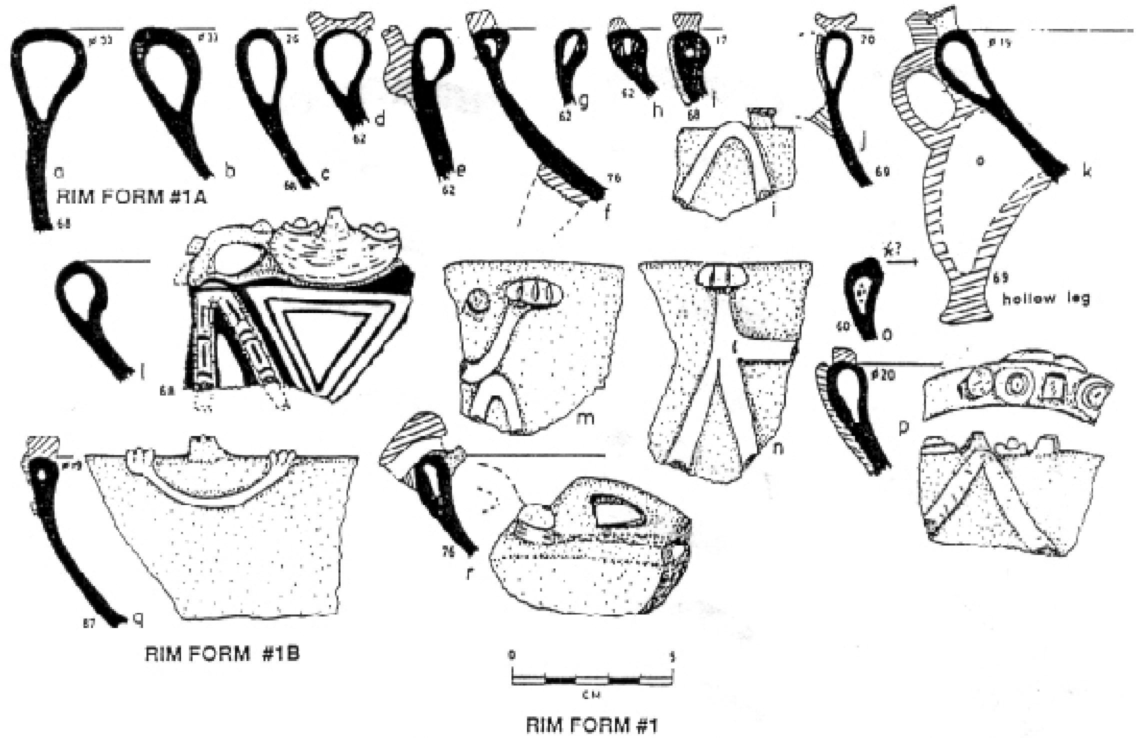


Figure C-17: Hollow rim with black on white paint (Dabajuran Sub-Tradition)

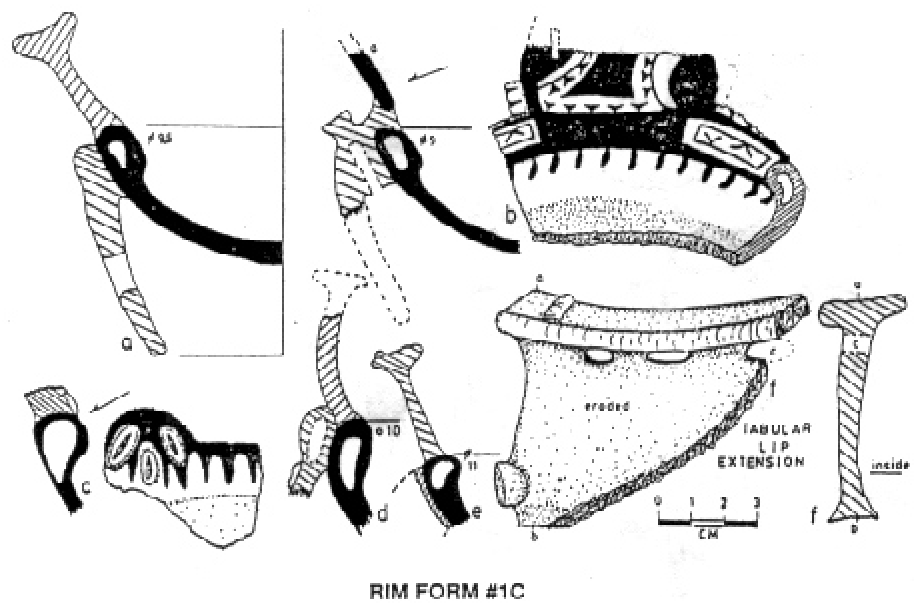


Figure C-18: Hollow rim with tabular lip extension and shafted base

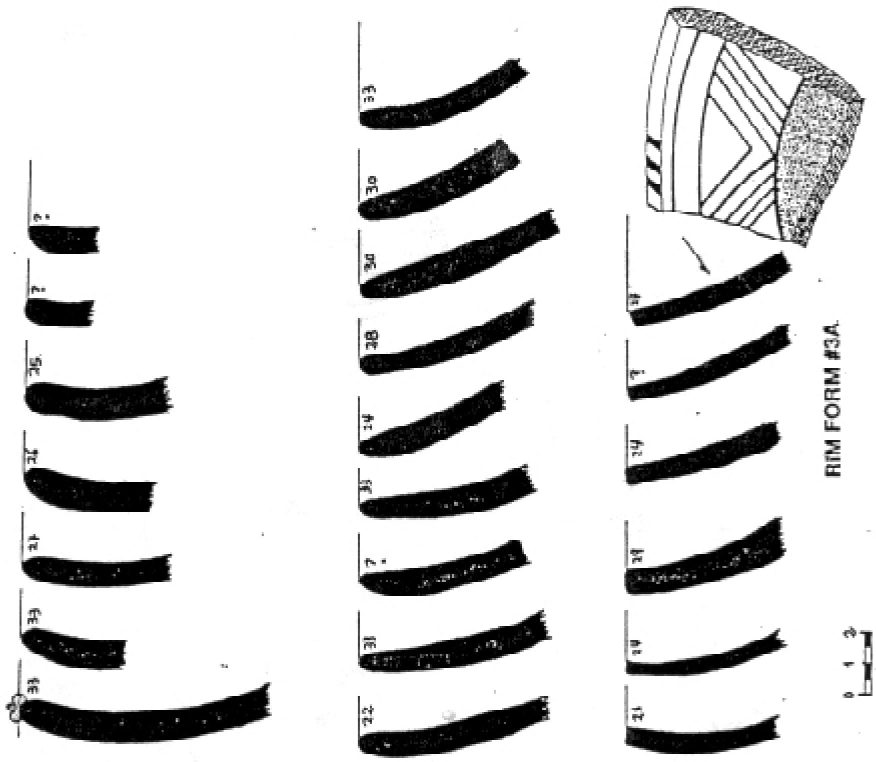


Figure C-19: Fine ware open bowls

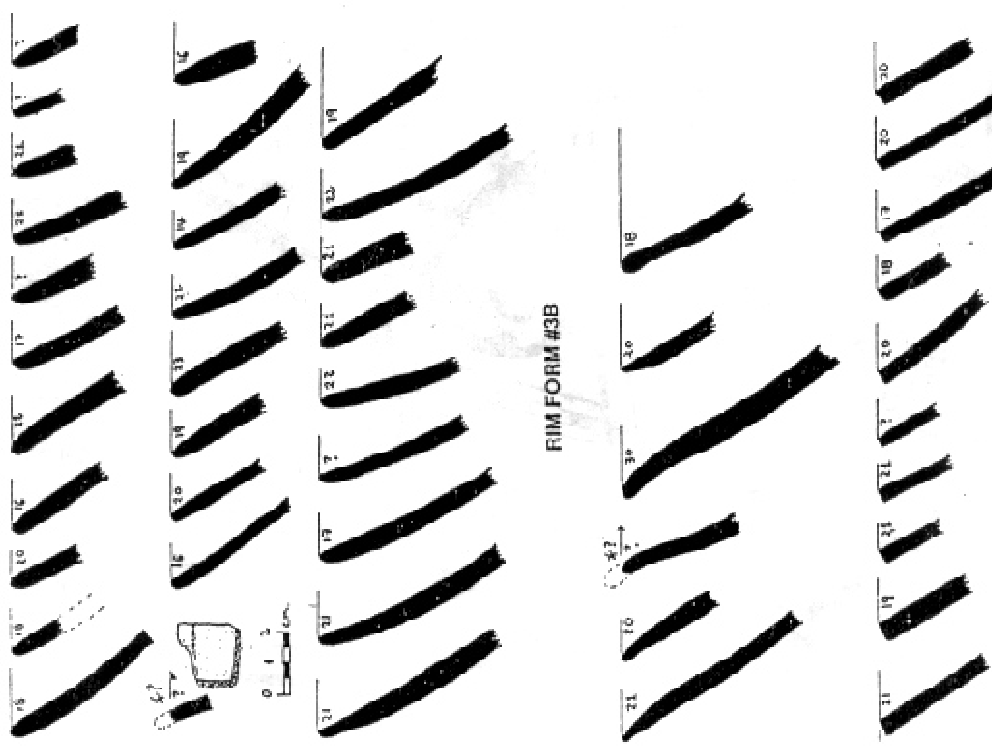


Figure C-20: Fine ware open bowls

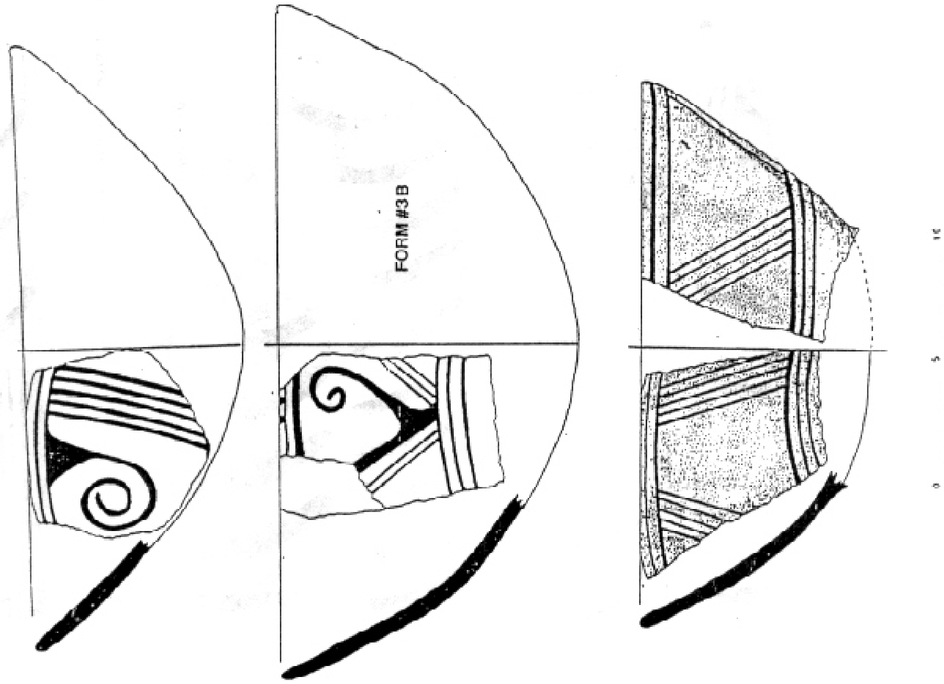


Figure C-21: Black on red painted bowls (Inside: Dark brown on buff)

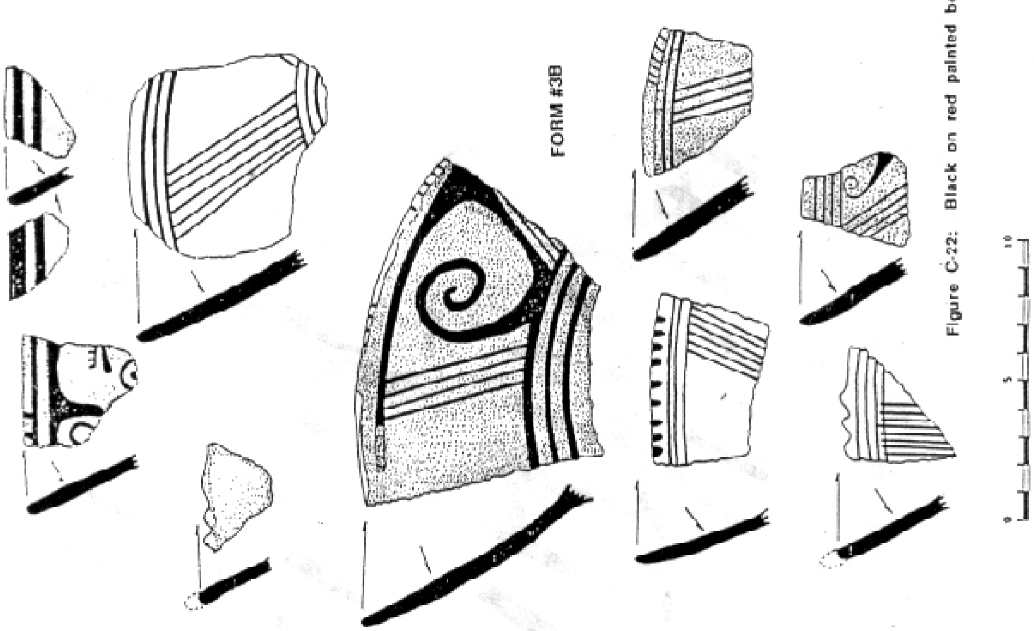


Figure C-22: Black on red painted bowls

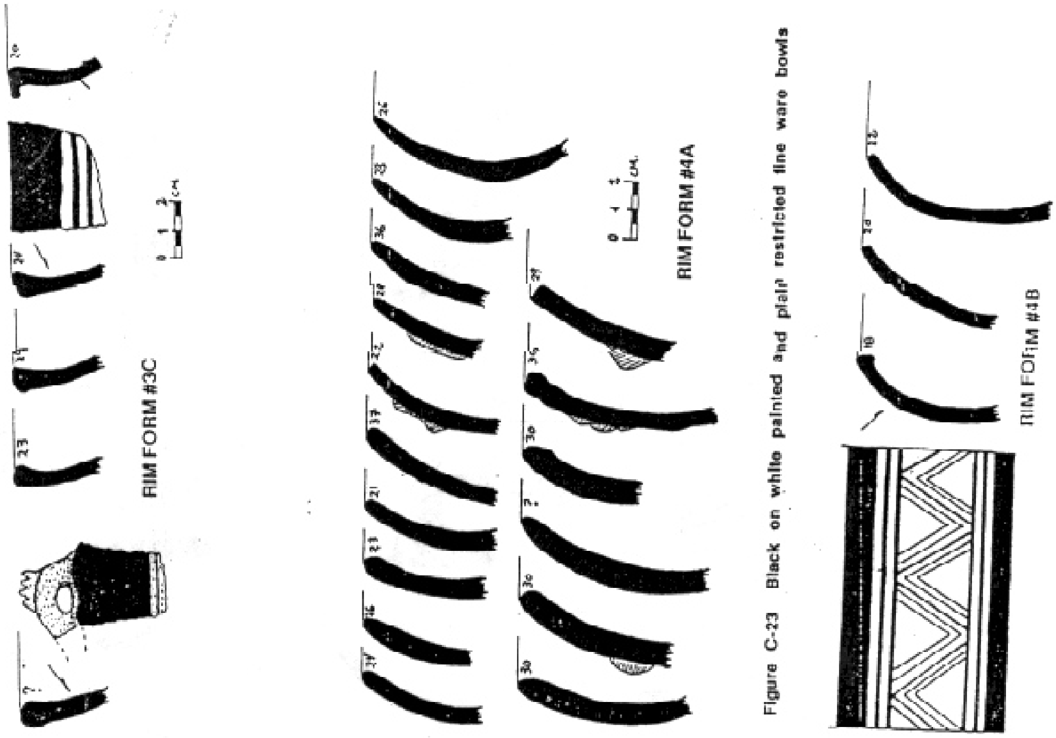


Figure C-23 Black on white painted and plain restricted fine ware bowls

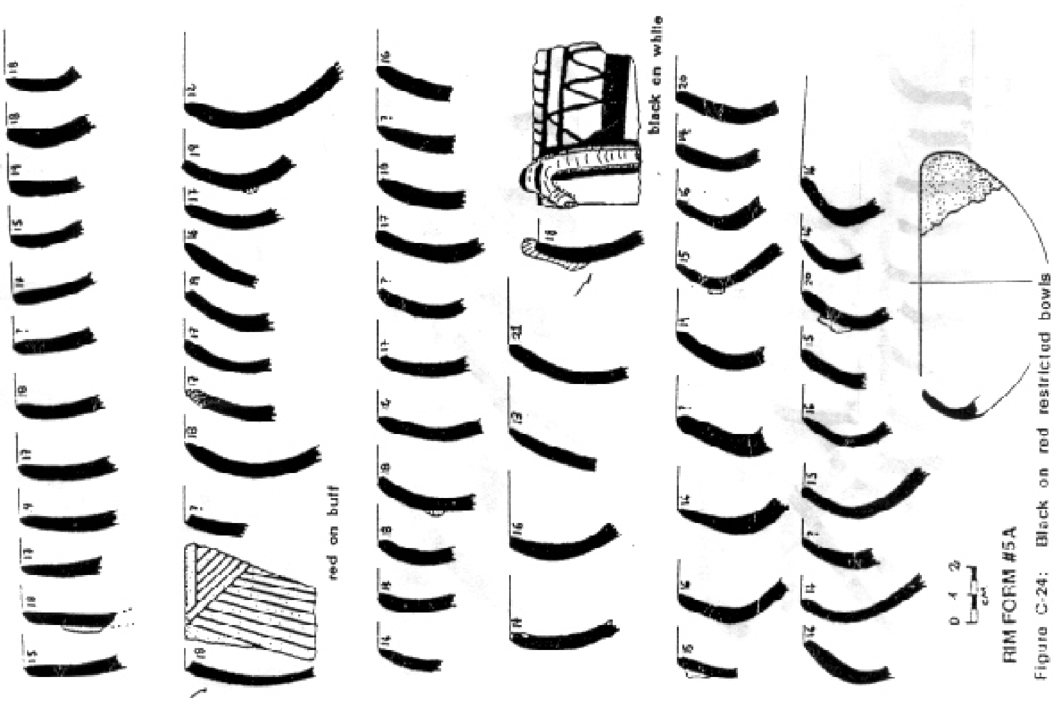


Figure C-24: Black on red restricted bowls

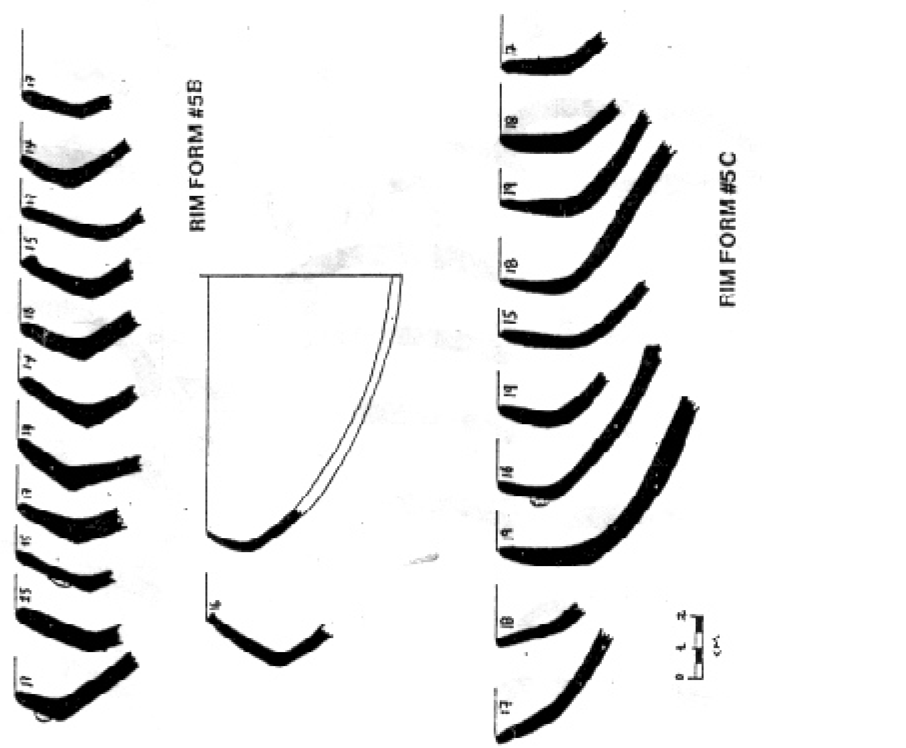
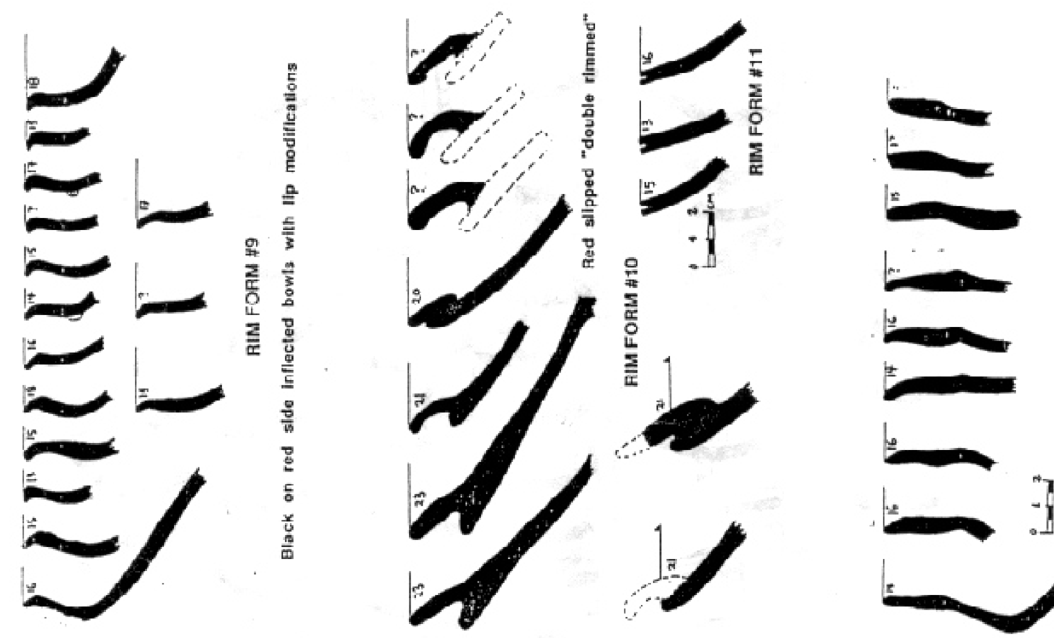


Figure C-25 Black on red side inflected bowls



MISCELANEOUS RIM

Figure C-26

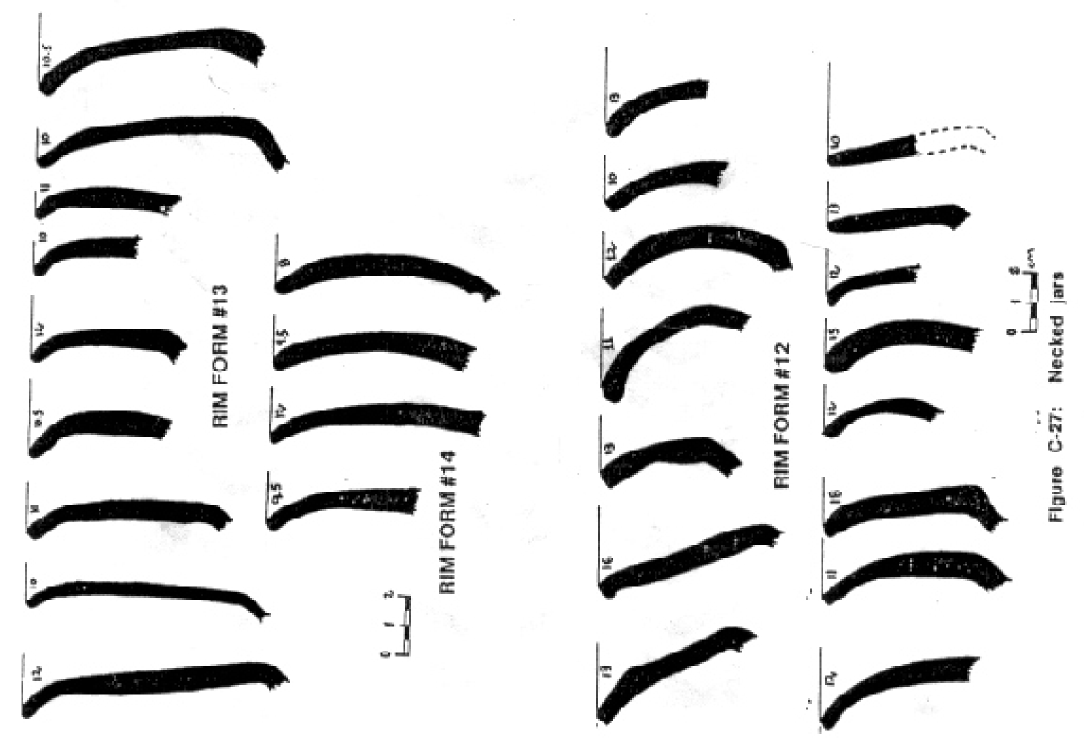


Figure C-27: Necked jars

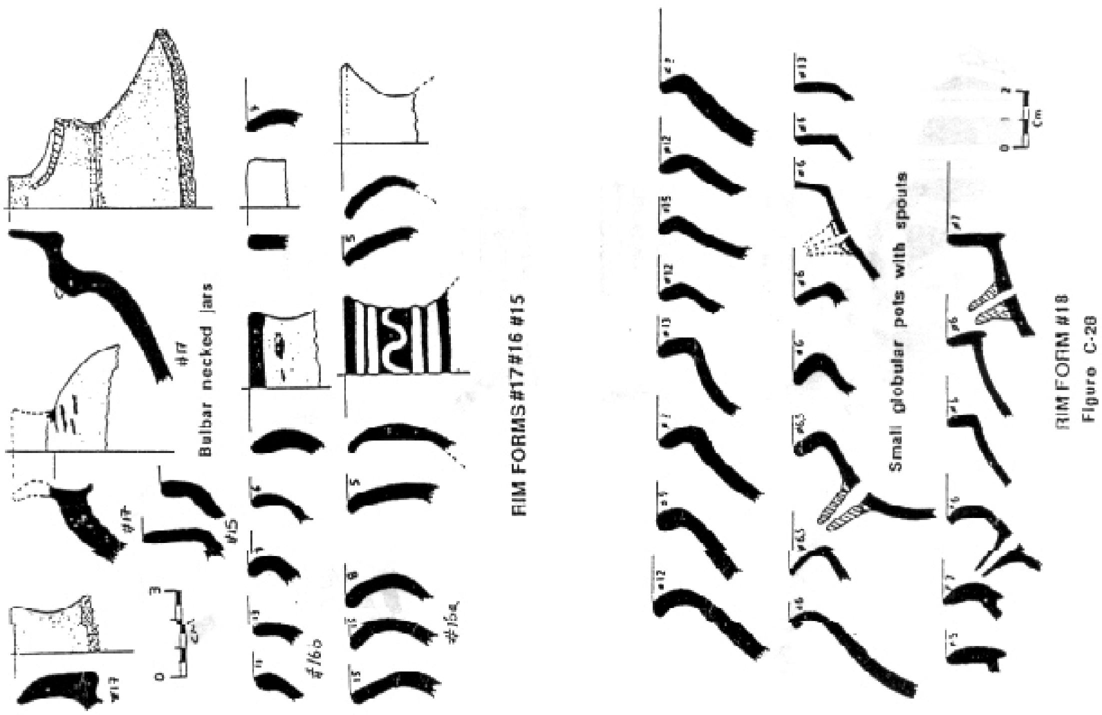


Figure C-28

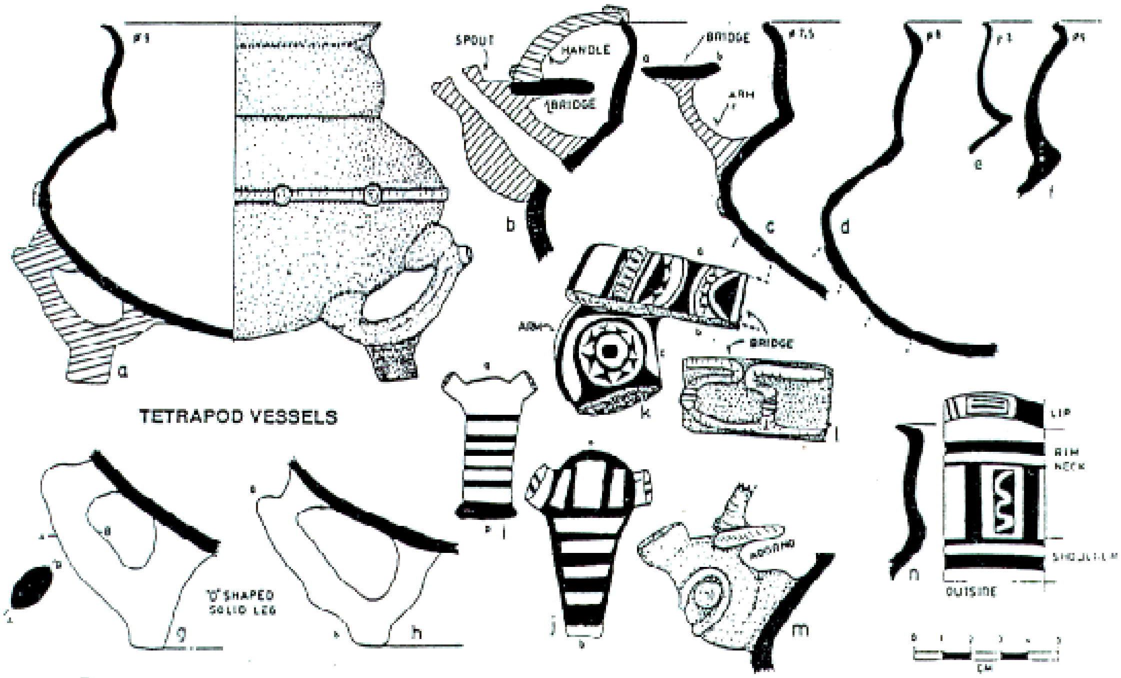


Figure C-29: Tetrapod biomporphic drinking bowl (Black on white paint)

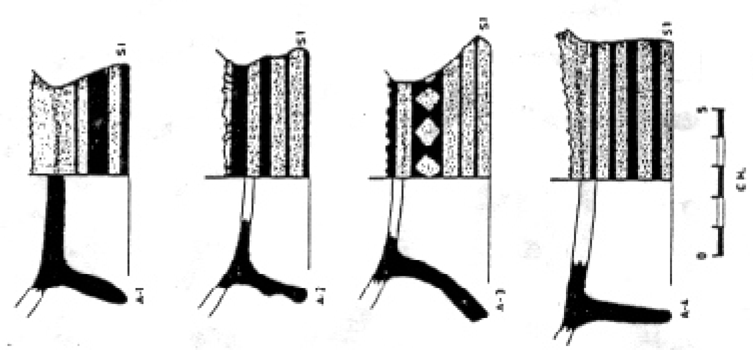


Figure C-30: Simple annular base forms

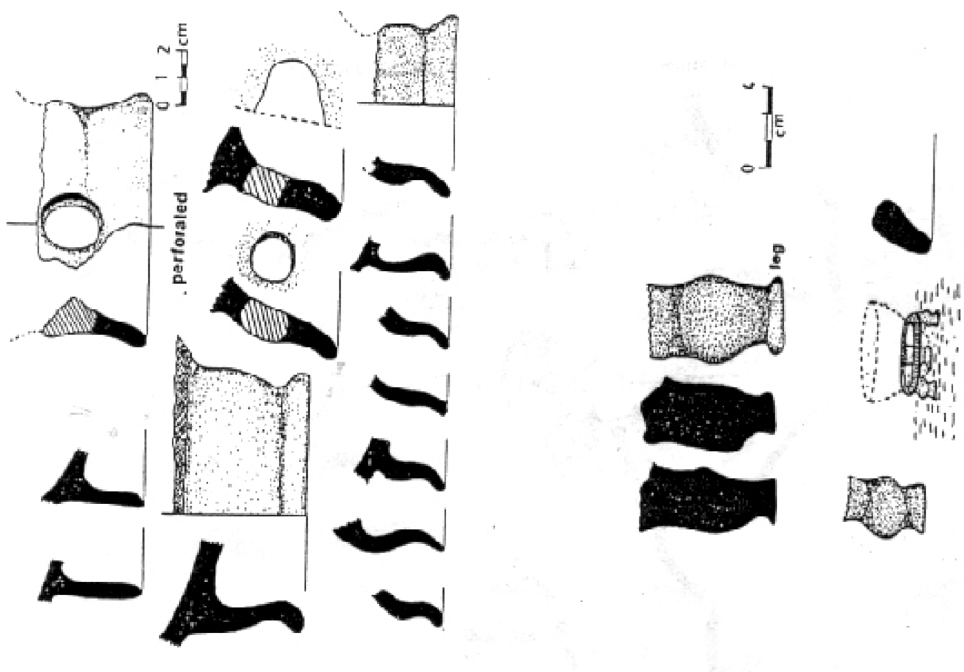


Figure C-31: Miscelaneous annular base forms

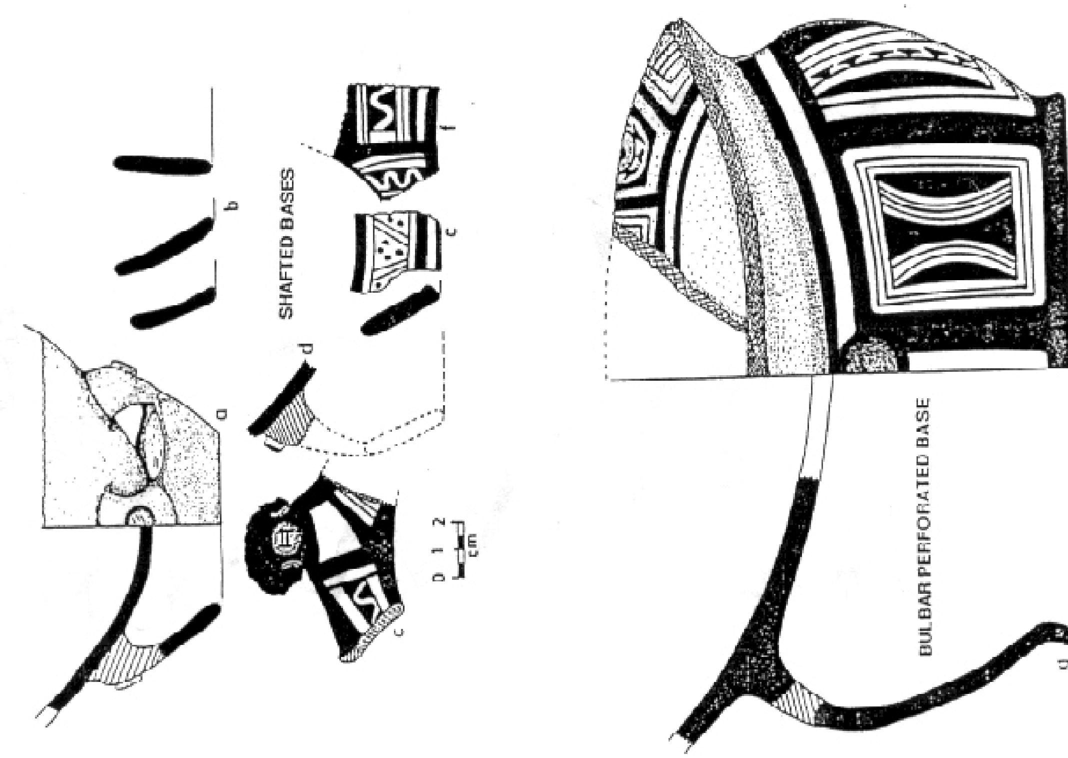


Figure C-32

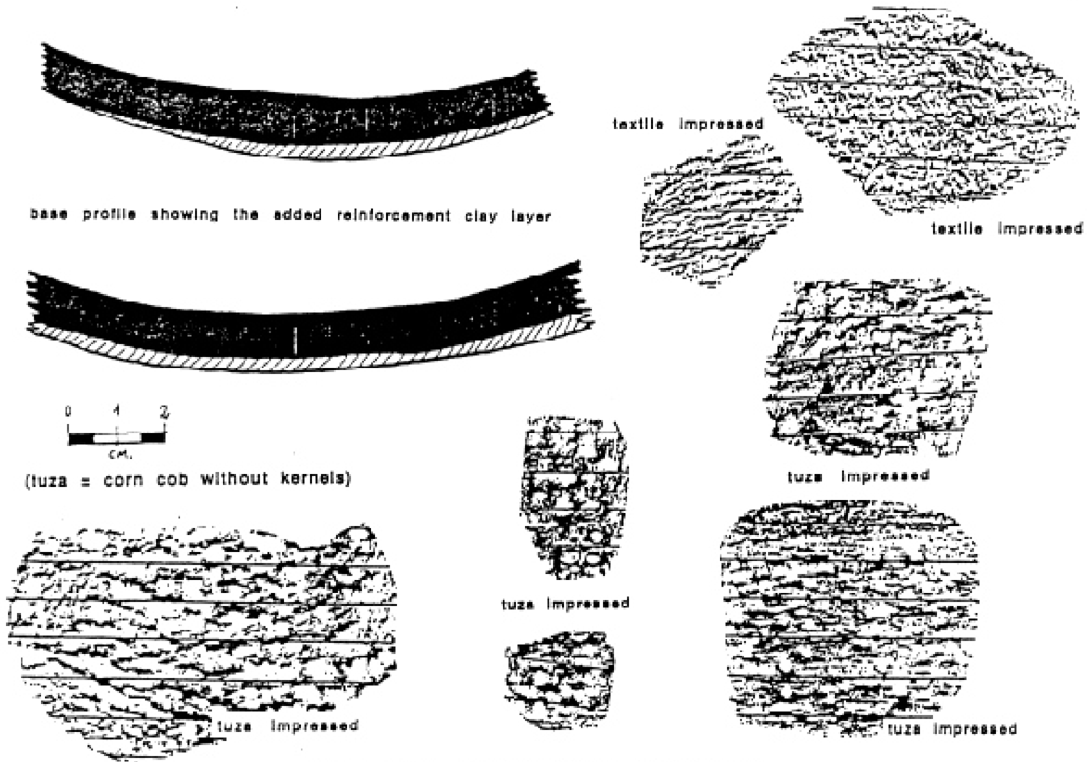


Figure C-33: Impressed basal reinforcements

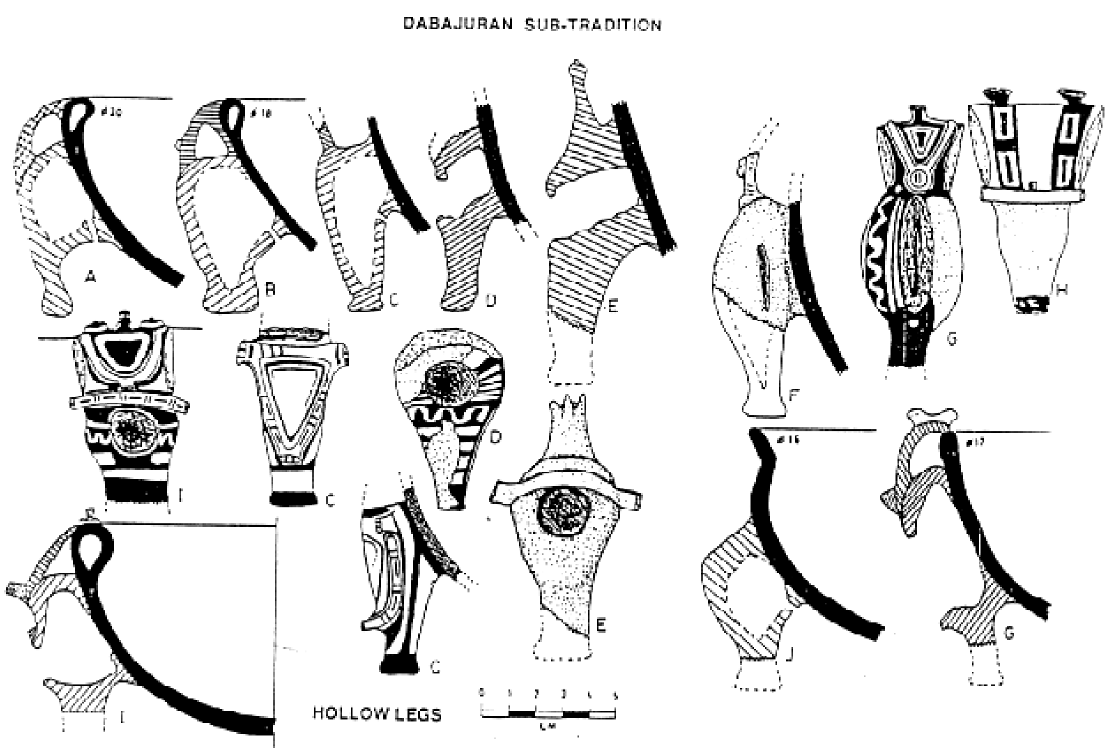


Figure C-34: Miscelaneous hollow leg form belonging to tripod vessels

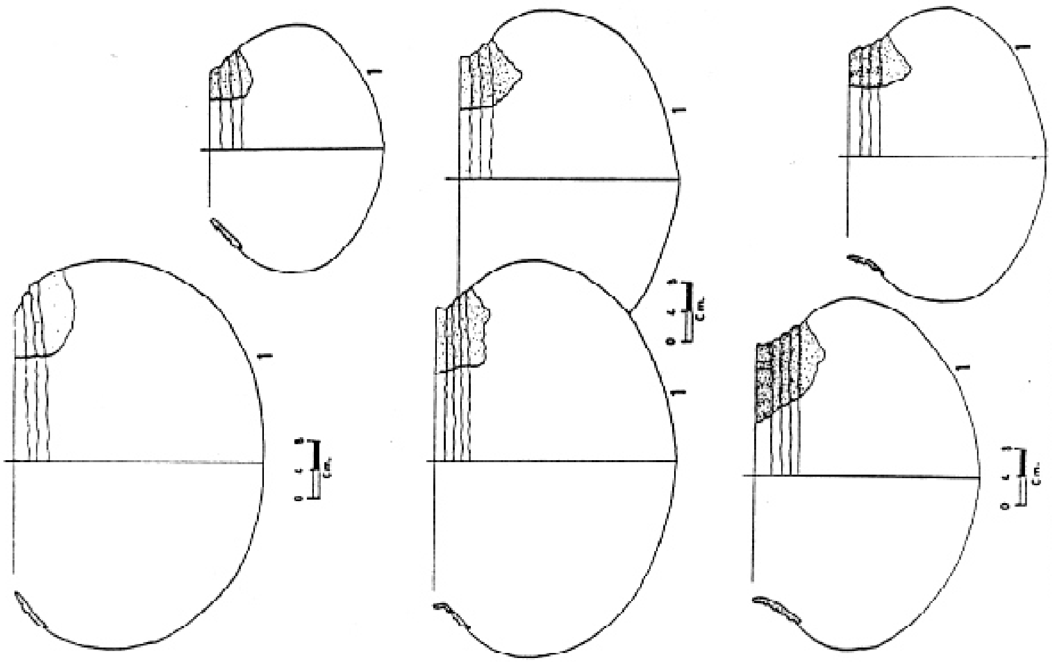


Figure C-35: Ordinary ware multiple coiled vessel forms (Dabajuran Sub-tradition)

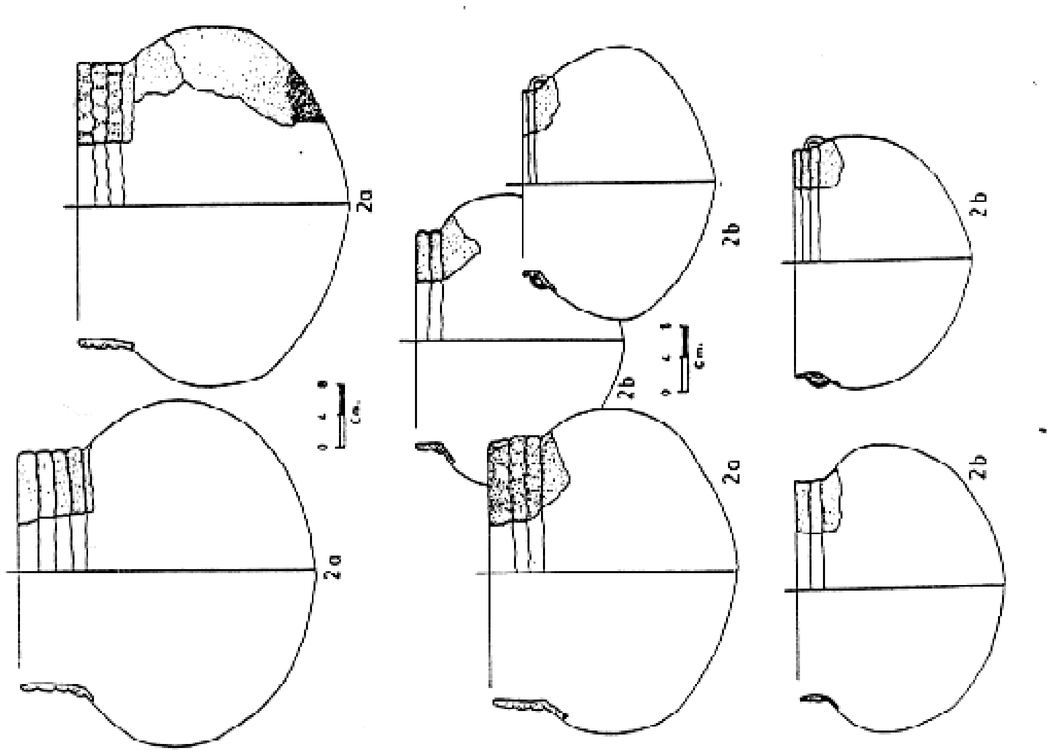


Figure C-36: Ordinary ware multiple coiled vessel forms (Dabajuran Sub-tradition)

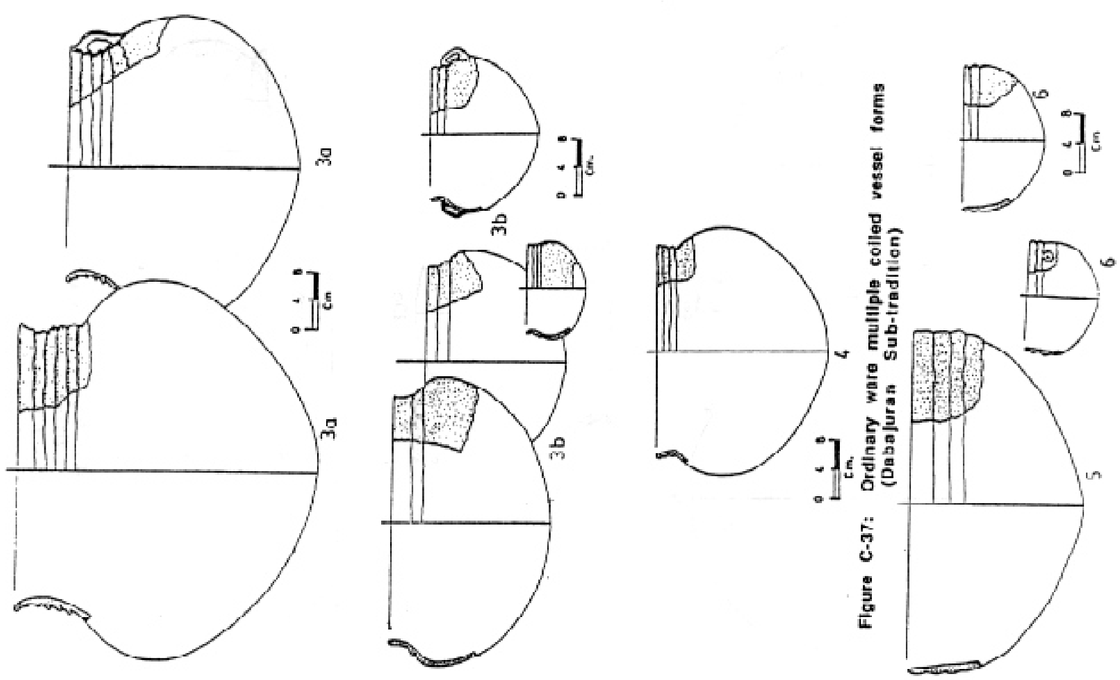


Figure C-37: Ordinary ware multiple coiled vessel forms (Dabajuran Sub-tradition)

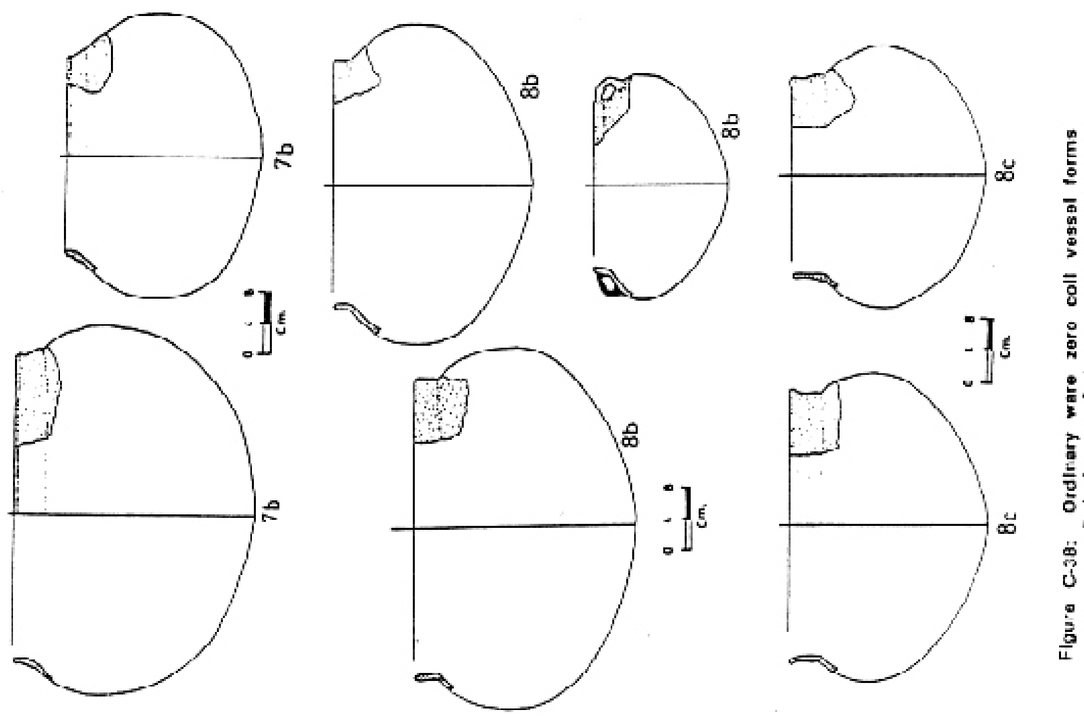


Figure C-38: Ordinary ware zero coil vessel forms (Dabajuran Sub-tradition)

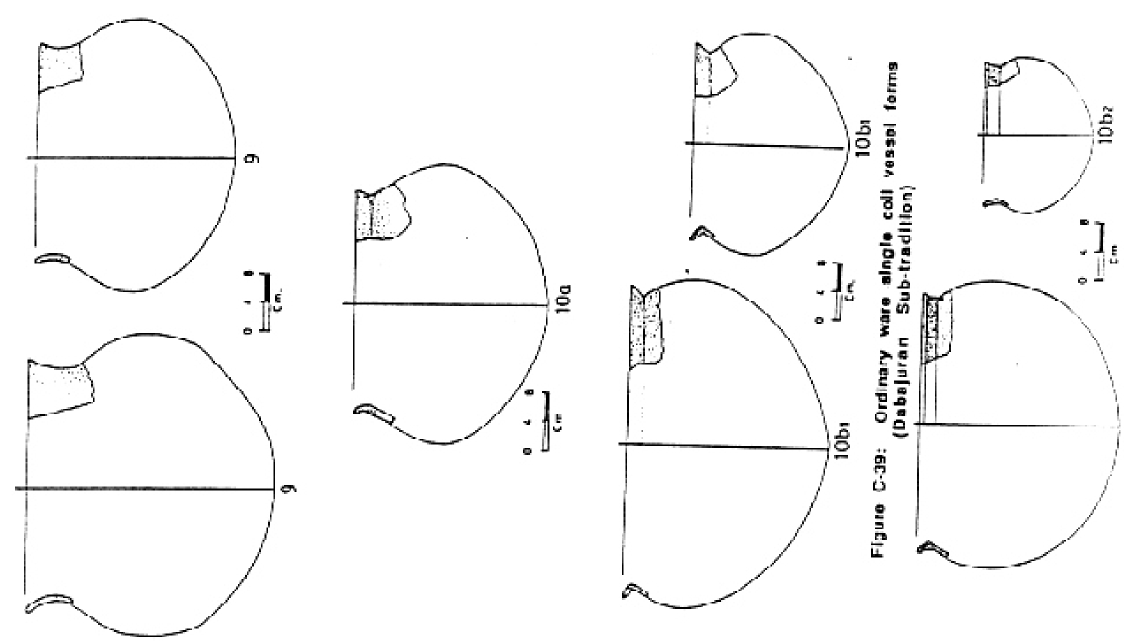


Figure C-39: Ordinary ware single coil vessel forms (Dabajuran Sub-tradition)

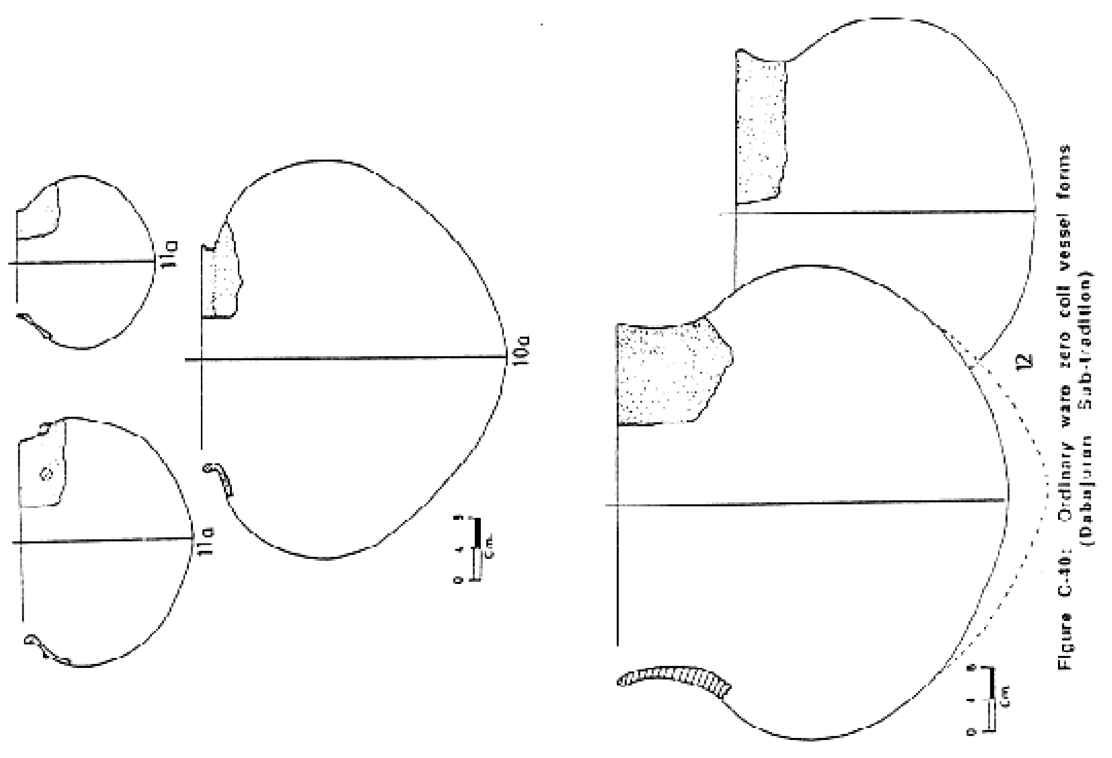


Figure C-40: Ordinary ware zero coil vessel forms (Dabajuran Sub-tradition)

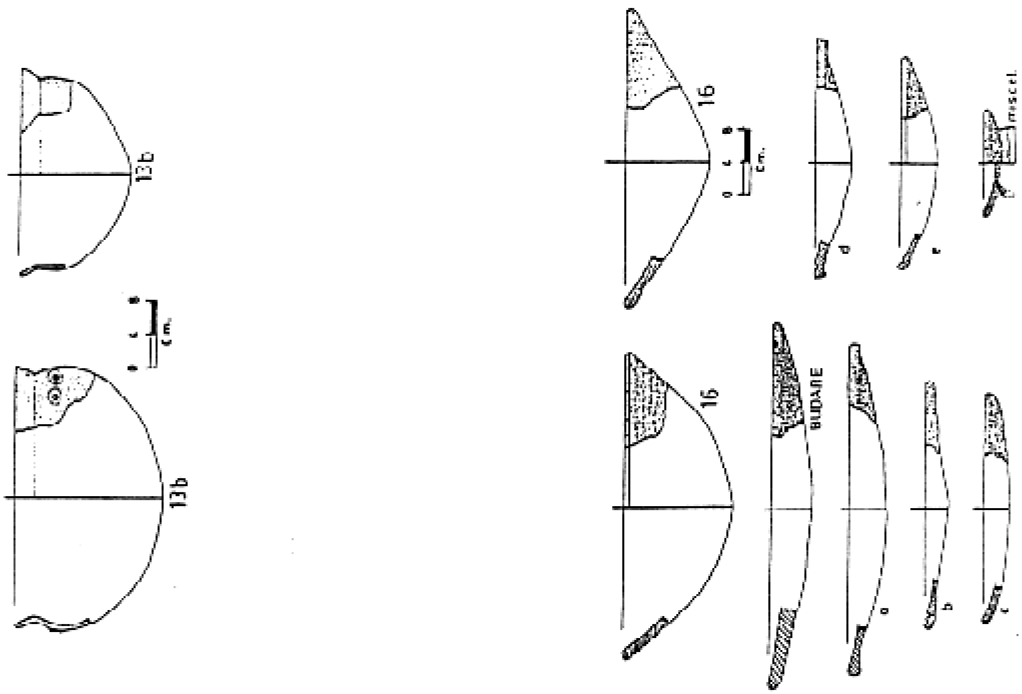


Figure C-41: Shallow platters, budares and aripos (Dabajuran Sub-tradition)

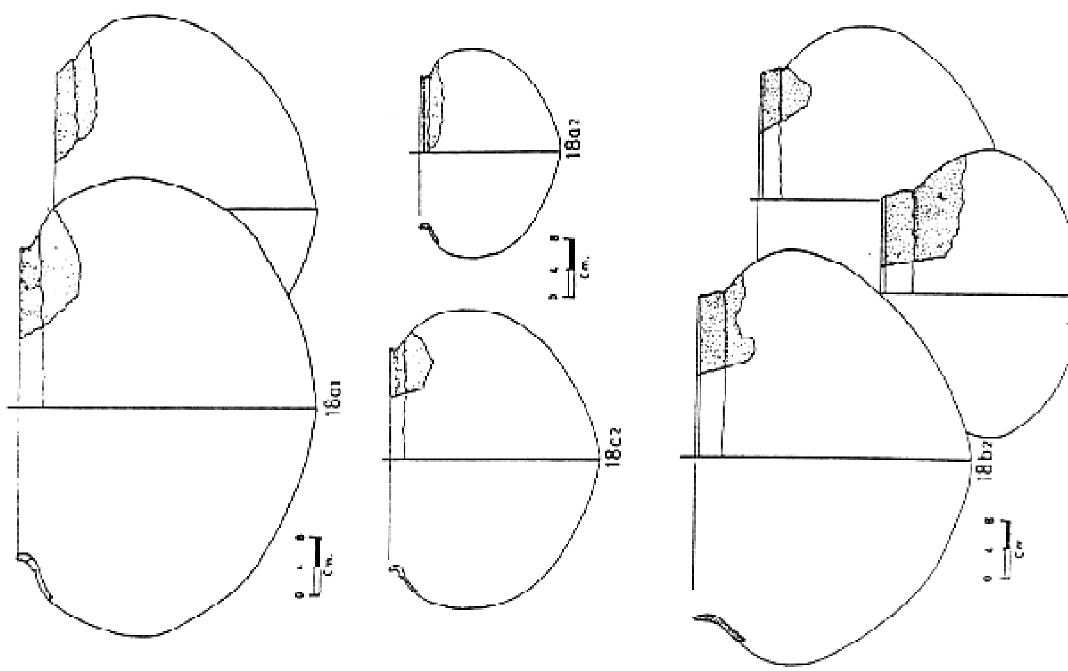


Figure C-42: Ordinary ware single coiled vessel forms (Dabajuran Sub-tradition)

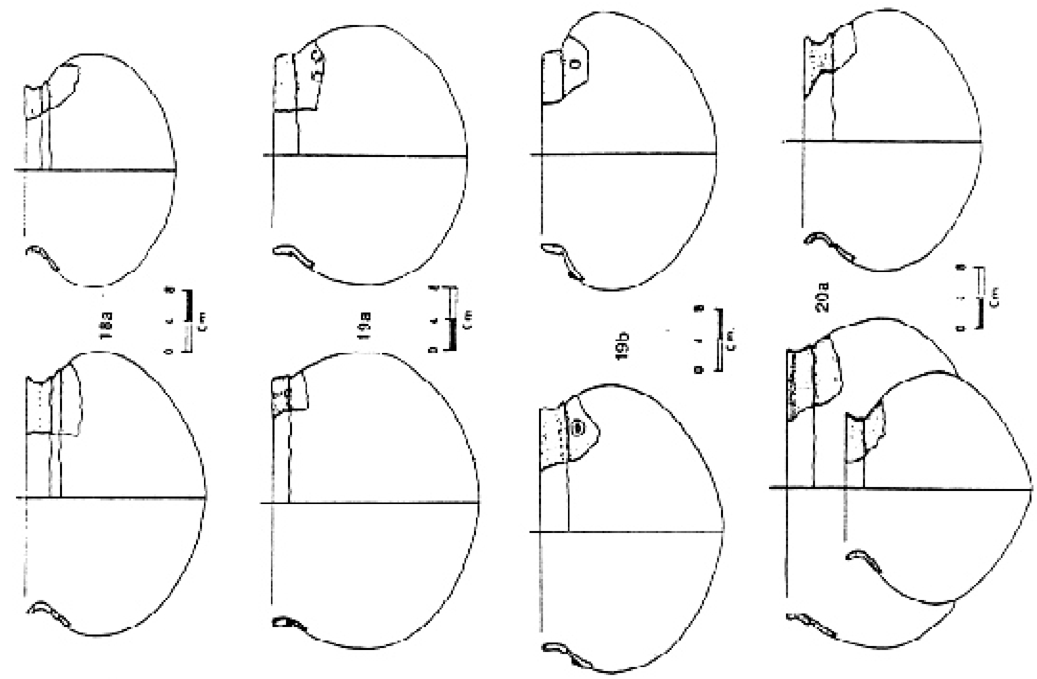


Figure C-43: Ordinary ware single coiled vessel forms (Dabajuran Sub-tradition)

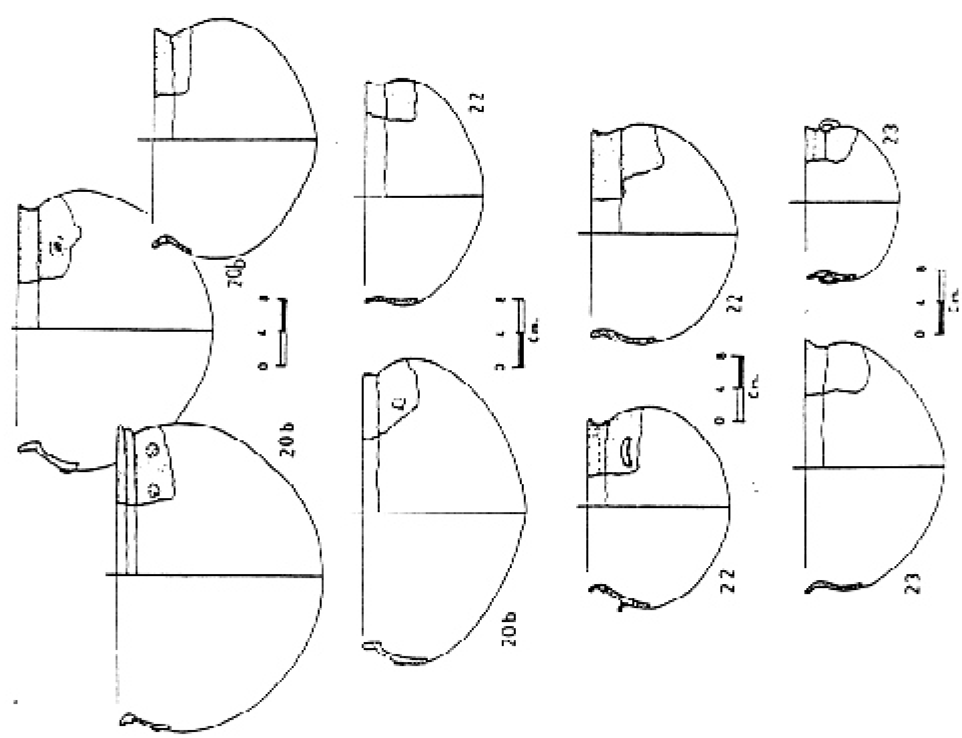


Figure C-44: Ordinary ware single coiled vessel forms (Dabajuran Sub-tradition)

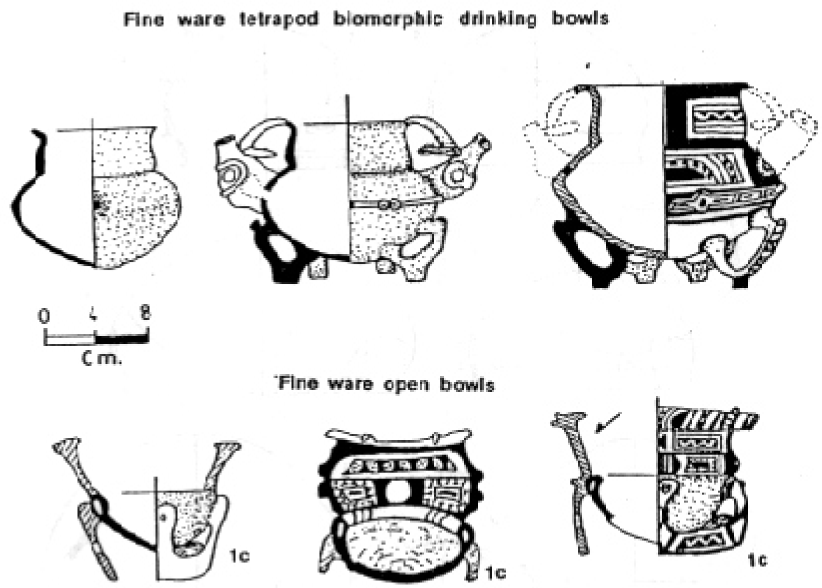


Figure C-46

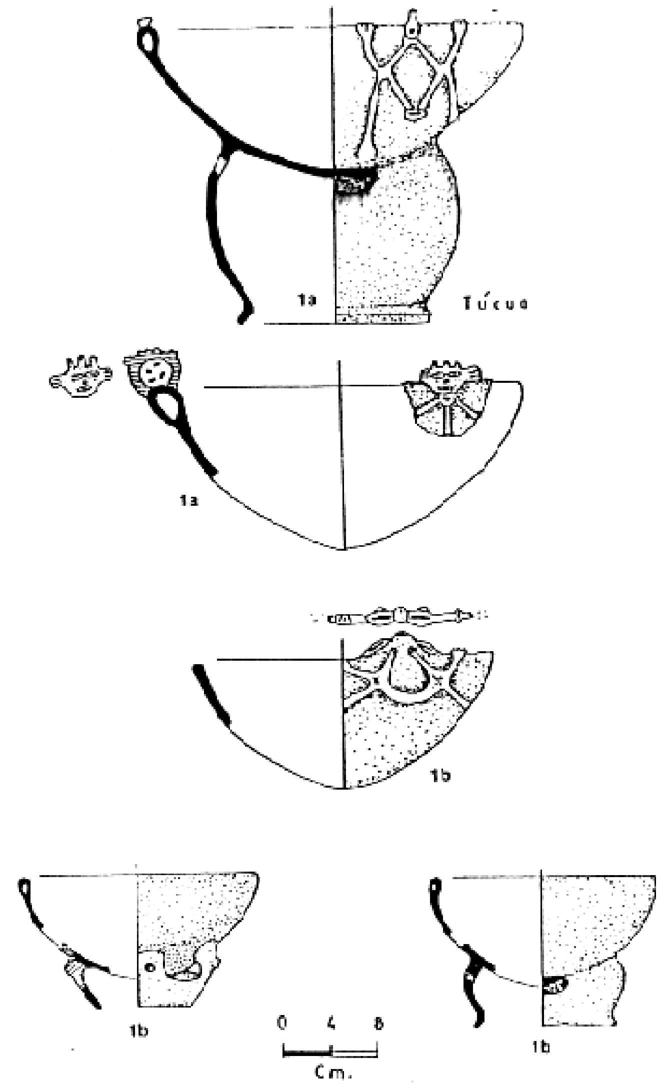


Figure C-45: Fine ware open bowls

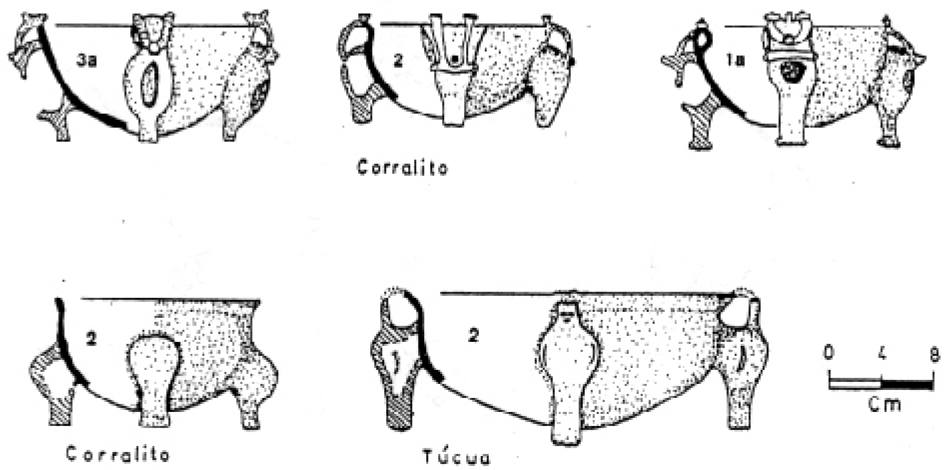


Figure C-47: Open tripod bowls

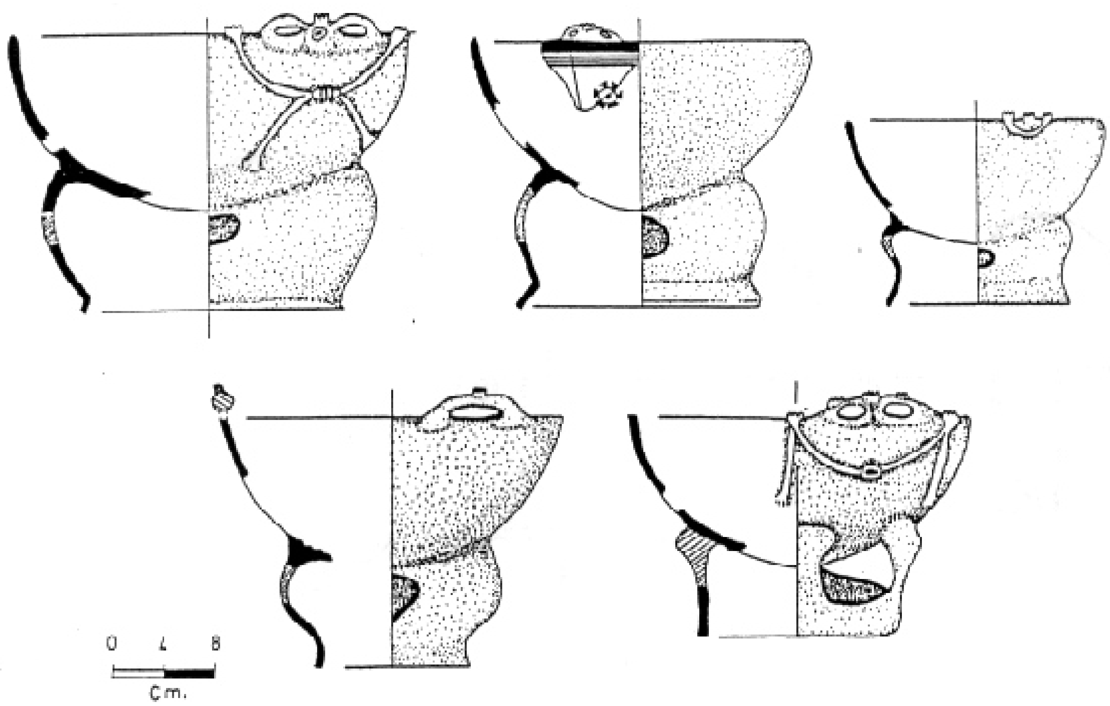


Figure C-48: Open bowls (Form 3a)

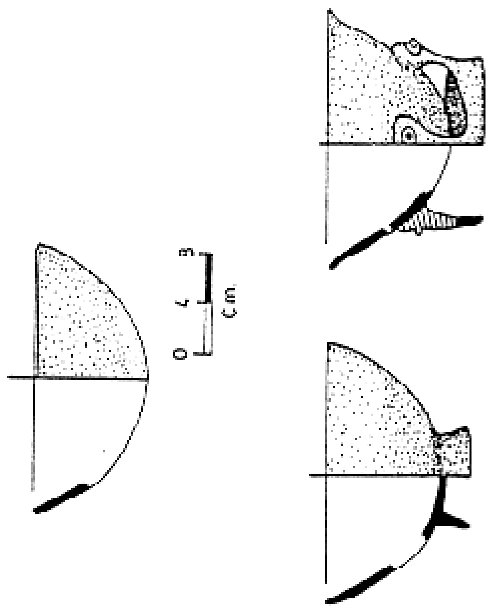


Figure C-49: Open bowls (Form 3b)

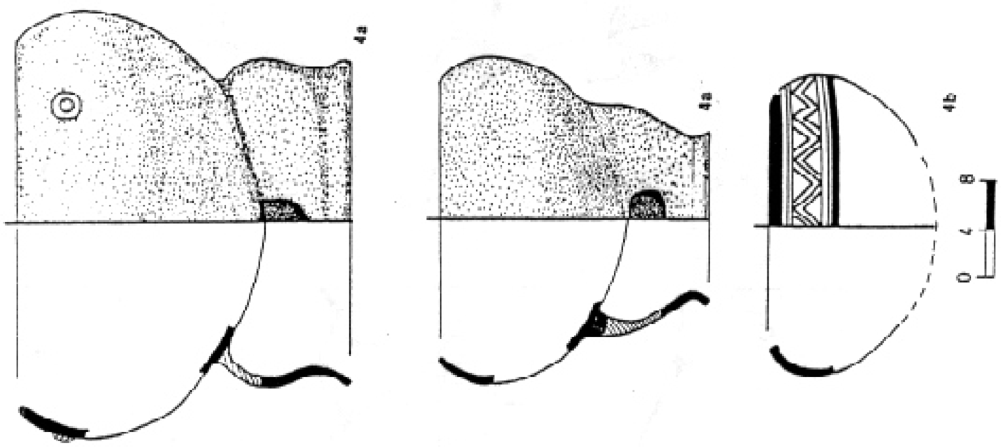


Figure C-50: Restricted (Incurving rim) bowls

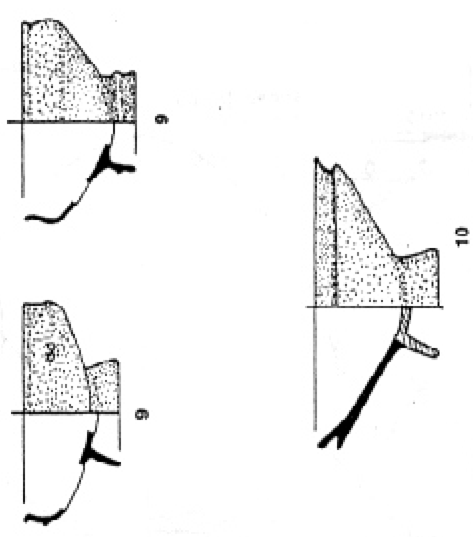


Figure C-52: Open bowls (Forms 9 and 10)

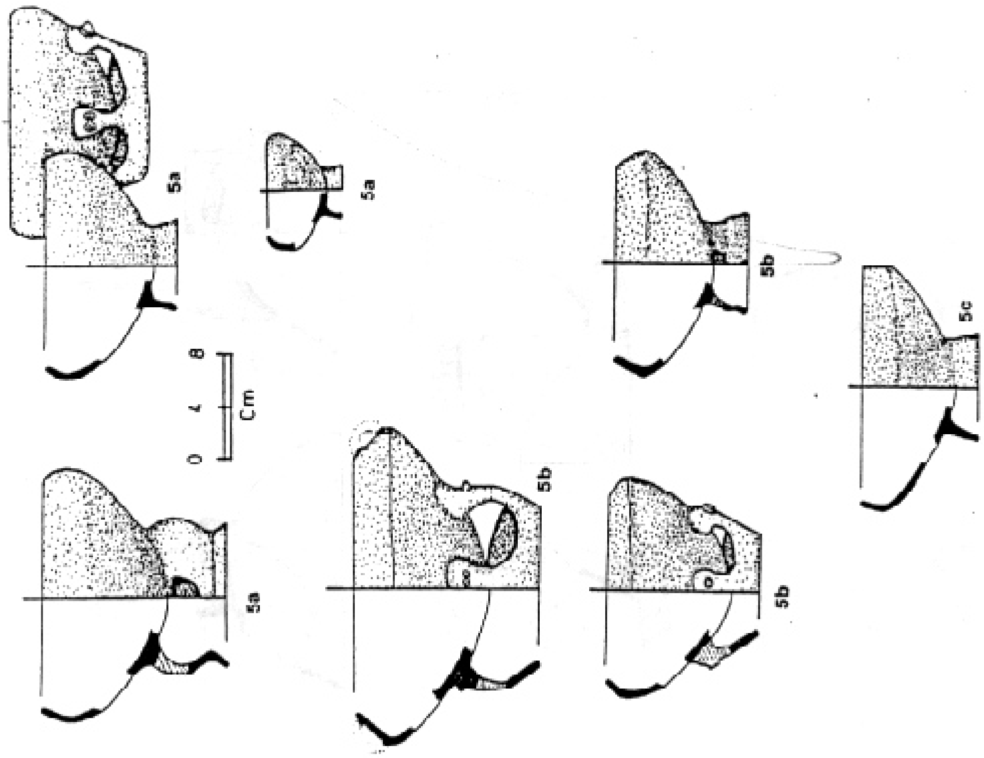
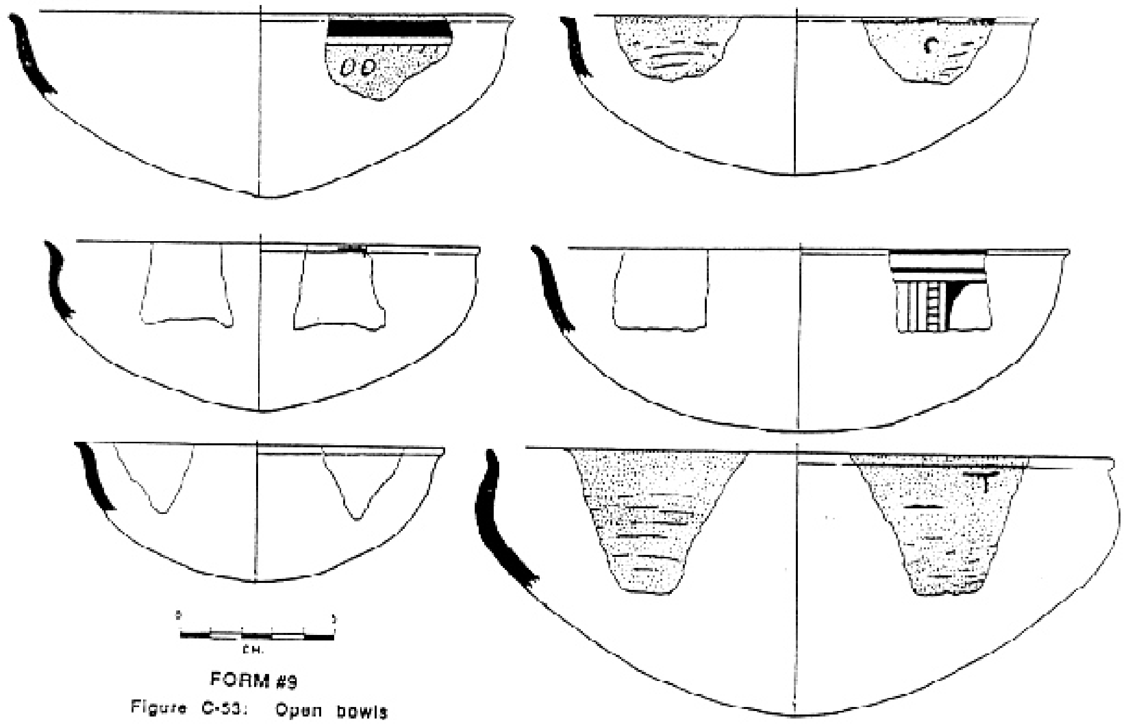


Figure C-51: Restricted (incurving rim) bowls



FORM #9
Figure C-53: Open bowls

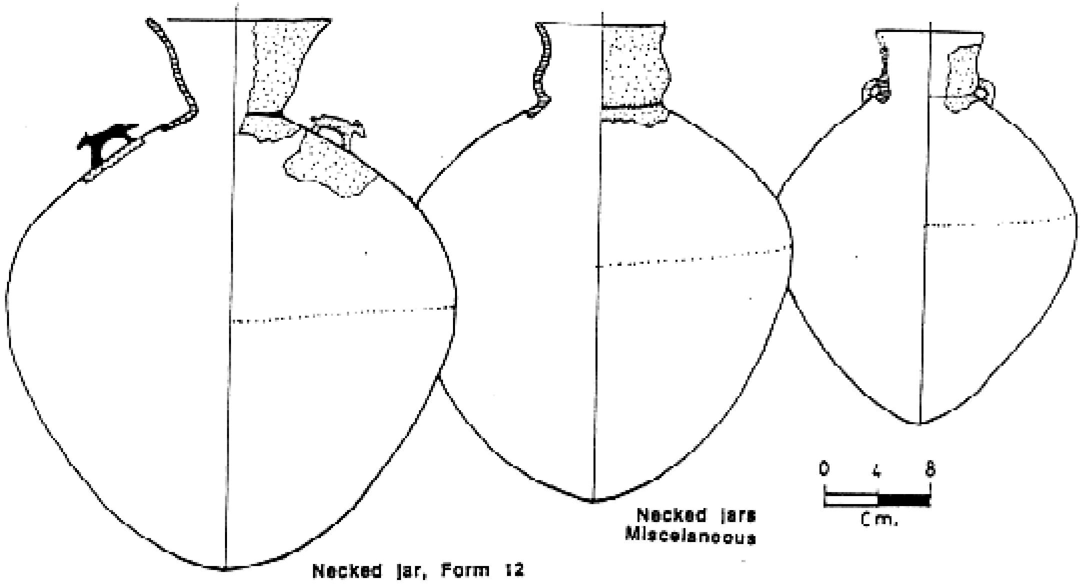


Figure C-54

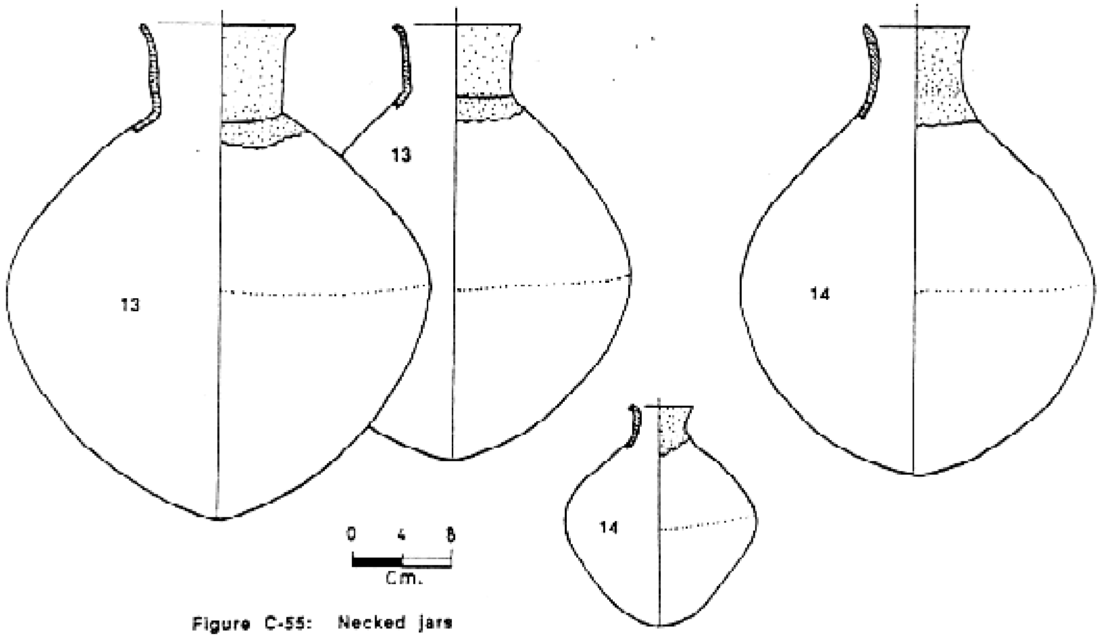


Figure C-55: Necked jars

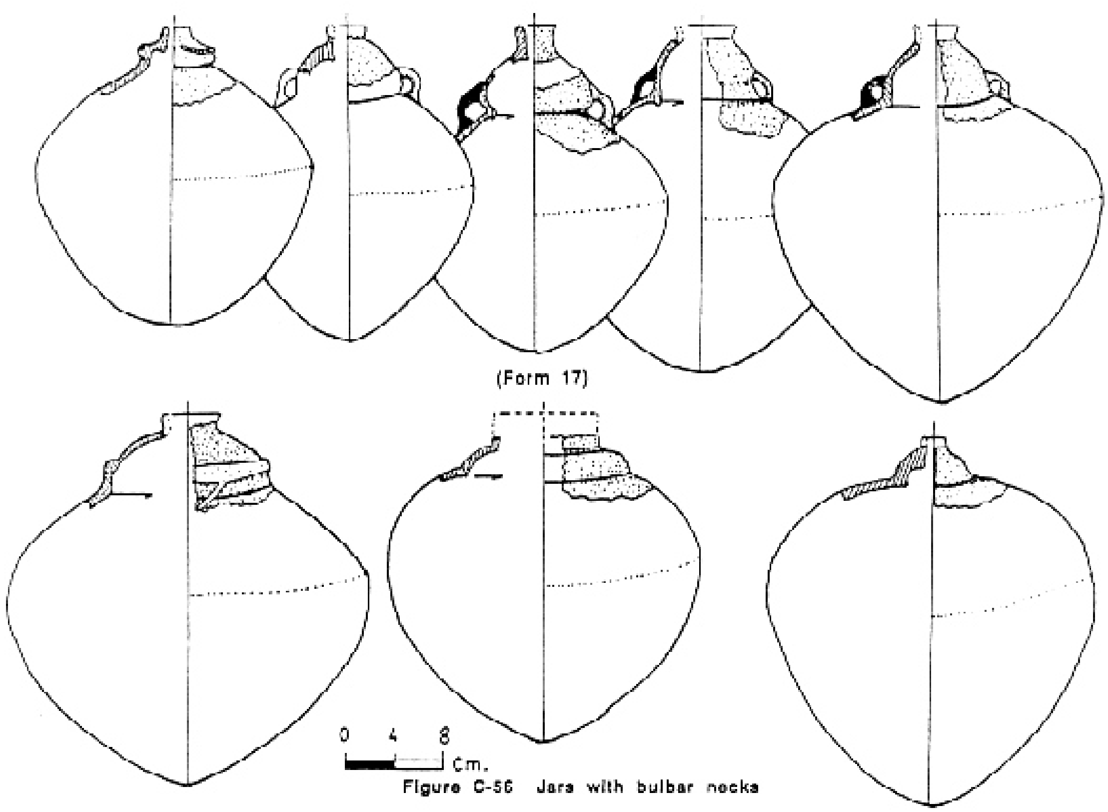


Figure C-56 Jars with bulbar necks

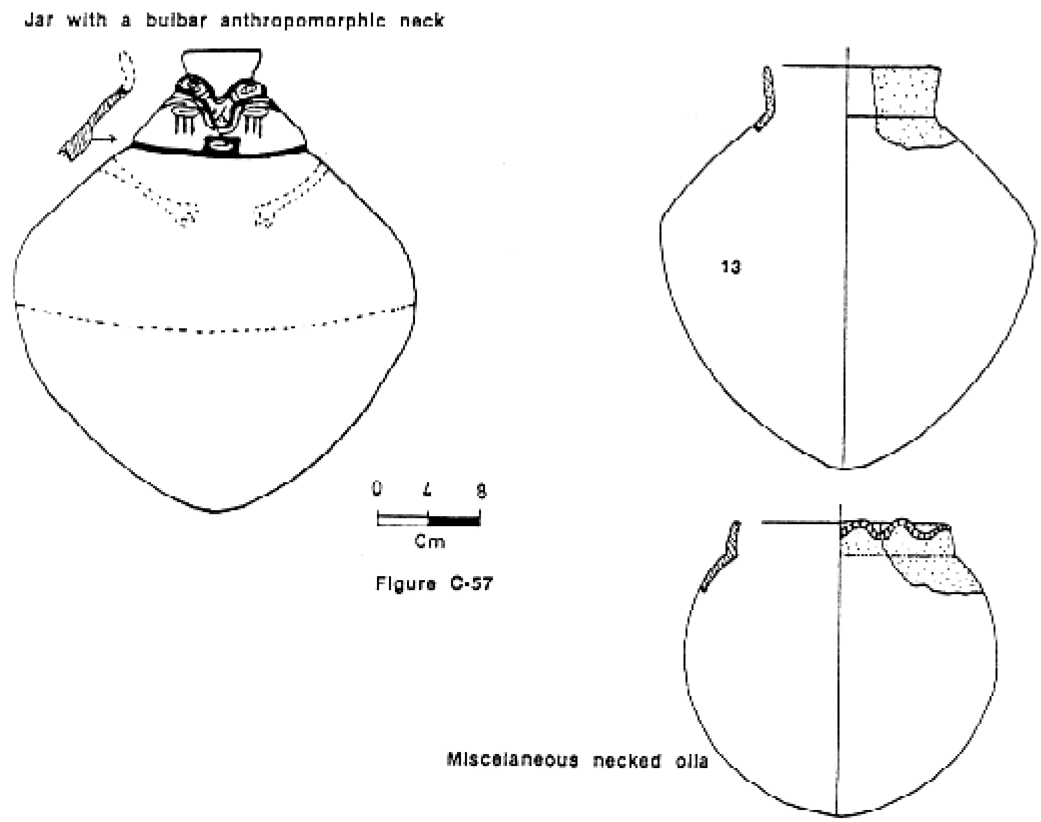


Figure C-57

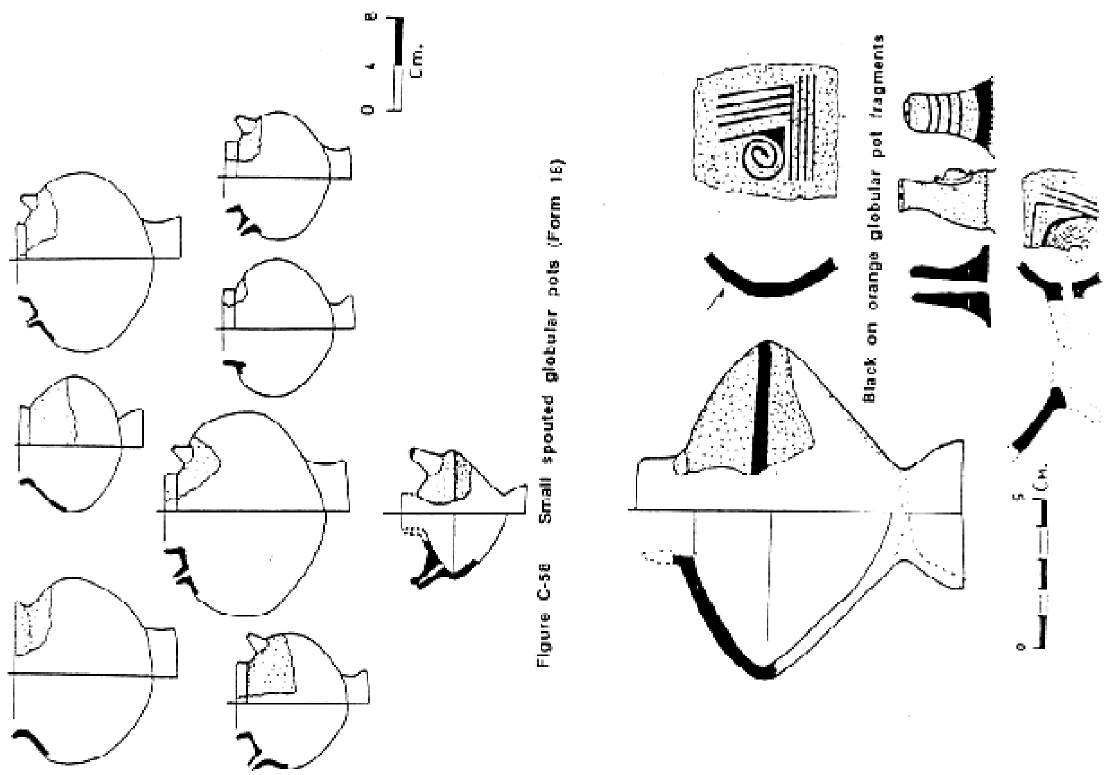


Figure C-58 Small spouted globular pots (Form 16)